

# The National Locksmith®

\$5.00

**CODES**  
CM 7N47-7R83  
page 109

November 1996  
Volume 67, No. 11

*Feast Your Eyes On This...*

Serving up an  
access control  
installation on  
page 28



<http://www.TheNationalLocksmith.com>  
User name: natlock User ID: G5fh84

Read Marc's  
Commentary (pg. 5)  
for details about  
our new Web page.



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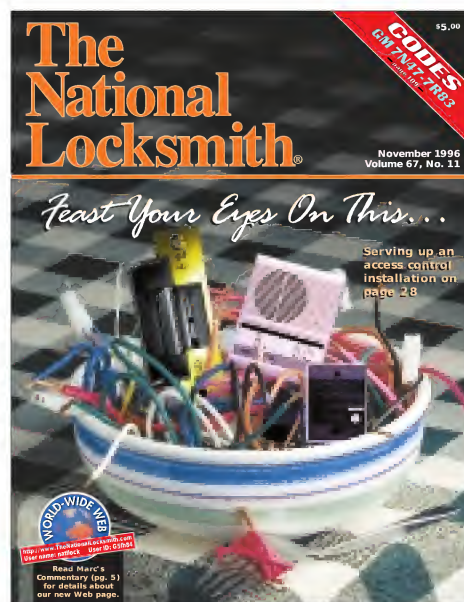
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### On The Cover

Today's special is Aiphone and Rutherford Controls served with a tasty wire run and presented as a complete installation to wet the pallet.



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# COMMENTARY



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## Marc gets a new page! Plus check us out on the Web!

**W**ell I bet you notice something different about my Commentary page this month! Over the years, certain readers have accused me of discovering the Fountain of Youth, and they have demanded that I reveal the details of where this fountain is located.

To tell the truth, while I did not discover the Fountain of Youth, I did discover hair and a set of barbells. Between these two factors, I do look a lot younger than in my previous photos. Any rumors of magic or voodoo are just that....simple rumors. So please don't cut out and send me any more pictures of that old guy who's face used to appear on this page!

**Y**ou'll notice a new graphic on this page that mentions the Worldwide Web. That's the portion of the Internet loaded with tons, and I mean tons, of cool stuff.

The National Locksmith is now online with a terrific web site. Some of our articles are reproduced there, plus we put up information to help the public learn more about why they should call the locksmith.

Beyond that, we have placed our entire book and product catalog in the web site and this allows you to read more information about every book and manual we publish. Use the password G5fh84 to get into the locksmith area of our site.

Also, be sure to look at the Q&A section. You'll find a great deal of technical information to help you on the job. Check us out on the web!

**O**nce in a while you find an organization that goes beyond the simple routine of "business as usual." Such a company is Jet Hardware. When Jet publishes a new key catalog, as they have just done, they manage to turn the event into a manner of helping others.

Instead of just sending out the catalog, Jet has established a tradition of asking that locksmiths make a small donation to the American Cancer Society when requesting the catalog.

See this month's Security Cafe department to learn how you can help Jet and other locksmiths fight Cancer by donating only \$2 to the American Cancer Society for your Jet catalog.

Hats off to both the people at Jet and all the locksmiths who have participated in this program over the years.

*Marc Goldberg*



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Write us at: NATLOCK@aol.com

**Marc Goldberg**  
Editor/Publisher

November 1996 • 5



# Mango's Message

I hope you had a good night's sleep last night, because we're going to start the day off with a little quiz. So, grab a pencil and paper and follow along. I'm going to give you a master keying quiz. Oh, don't worry, its not going to be that difficult. I'm going to give you just one question which you will need to answer. How tough could that be?

O.K., here's the quiz. How would you handle this service call:

A customer calls and says he has four locks that are all keyed different. He would like you to make a master key that would operate all the locks without changing the existing bitting or repinning the locks. The customer has no knowledge of the lock brand or current bittings, but asks you to see what you can do.

When you arrive at the given location, you find that all the locks are Schlage A line with an SC1 five pin keyway. O.K., so far, so good. Next you collect the keys to all four locks to decode the bittings. The bittings are as follows:

- A - 58585
- B - 19290
- C - 22222
- D - 48484

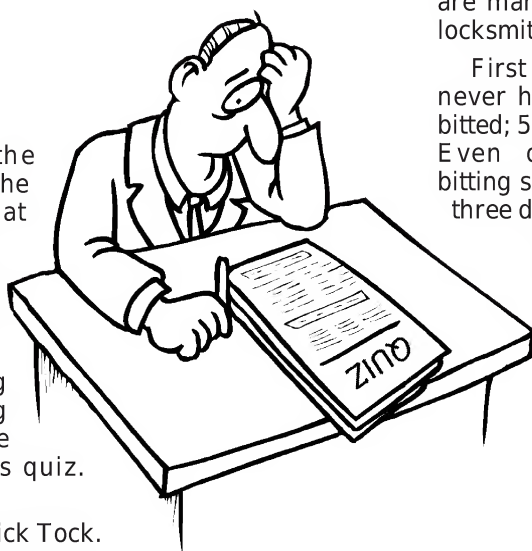
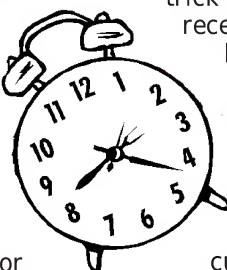
All right, that's the scenario. Now you fill in the rest of the blanks. What would be the Master key bitting? Remember, all you need to do is cut a key that will operate all four locks. You are not changing the existing combination or repinning the locks. You have five minutes to complete this quiz. Ready, go!

Tick Tock, Tick Tock, Tick Tock.

O.K., everyone put down your pencils. Time is up!

What do you mean that wasn't five minutes! If you needed more time than that, you failed the test anyway.

First of all, it would be impossible to make a master key that would operate all four of these locks without repinning the locks. So, if you spent any time at all thinking about what the master key bitting would be, you received an "F" on this quiz. Sorry.



## Just say NO!

Was this a fair quiz? Sure it was. Just because it was a trick question doesn't mean it wasn't fair. Given that, I recently had a locksmith call and ask me to calculate the bitting for a master key that would operate four existing locks with the exact bittings I just gave you. In fact, the very scenario I gave you, was the exact same one given me. The only difference was the individual asking me this question, was dead serious!

I told him it couldn't be done, and if his customer wanted a master key to operate these locks, the locks would need to be repinned. The locksmiths reply was, "He doesn't want to spend the money!" and insisted that "I" produce a master key bitting that will work.

"Sorry," I replied, "I can't help you."

Even if a master key could have been produced, there are many other factors which should have caused this locksmith to Just Say No!

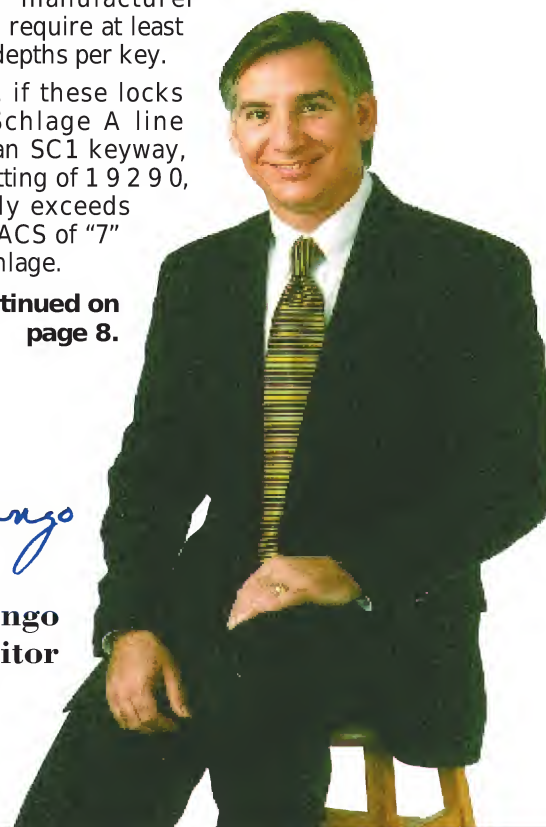
First of all, if you look at the bitting chart, you would never have an operating or change key that would be bitted; 58585, 22222 or 48484. Even original manufacturer bitting standards require at least three different depths per key.

Second, if these locks were Schlage A line with an SC1 keyway, the bitting of 19290, grossly exceeds the MACS of "7" for Schlage.

Continued on  
page 8.

*Greg Mango*

**Greg Mango**  
Managing Editor





# Mango's Message

Continued from page 6

**G**iven all these facts, this locksmith was going to do everything in his power to try and produce a master key for his customer under austere conditions, and for what? Just because the customer did not want to spend any money. It sounds like this is a lose, lose situation for the locksmith any way you look at it.

Far too often, we as service technicians get caught up in trying to repair an old worn out product for a customer that does not want to replace it (or simply doesn't want to spend any money), rather than telling the customer "The product is beyond repair and needs to be replaced." Period!

I'll be the first to admit, that I myself, have on occasion found myself struggling to repair a piece of hardware, only to realize that after slicing all my fingers and spending far too much time (eating what little profit I may have made) on the project, that I should have just thrown the product into the trash and sold the customer a new one. Sure, I may have amazed and awed the customer with my superior command and uncanny mastery of my trade had I repaired his hardware (boy, I'm just full of it today ain't I), but am I (or you) really providing the best service for the customer?

**B**y continuing to repair a product that should be trashed, or short-cutting a project because a customer refuses to pay what it would cost to do the job correctly, you're not helping him at all. In reality, you're not doing the customer — or yourself — any favors. Even if you were, the customer wouldn't remember it anyway, and if he did, he would expect it all the time. Unfortunately, all you're doing is creating a monster, and eventually you will get bit.

Besides trying to produce a master key for a few locks which couldn't be done under the restrictive conditions requested, what's the real core of the problem here? What's truly wrong with this picture?

I know, I know. I did say I was only going to give you one question or quiz to answer, but I thought I'd slip this one in. (If it makes you feel any better, it's not a trick question.)

**T**he real problem here is that this individual should not have even considered taking this job. Not just because it couldn't be done, but because he obviously didn't have sufficient knowledge and understanding about master keying.

Now, before I give you the impression that I'm throwing stones and pointing fingers, all the while beating my chest, I'm not. For instance, I have very little knowledge and understanding about... well, let's see here... hold on, give me a minute, I'll think of something. Well, on such short notice, nothing comes to mind at the moment (no pun intended).

In all seriousness, I have received numerous calls from

locksmiths that are stuck in the middle of a job and need help, which they should never have been on in the first place. I can't begin to tell you how many locksmiths I have talked to in which the caller will ask, for example: what the easiest way to make a key to the ignition of a 1982 Mustang is? The first thing I will ask the caller is "Can you impression?"

I know the answer even before I ask, because if he could, he wouldn't be calling.

Whenever I receive a call from someone needing help opening a safe, the first thing I will ask is "Do you own a borescope" or "Can you manipulate?"

Once again, I know the answer even before I ask. In most cases, if he did, or could, he would seldom need help, aside from maybe identification. That's because if an individual will go through the expense of purchasing a borescope, he will usually possess the knowledge and understanding of when, where and how to use it. If he could manipulate, this in turn would mean he would possess the basic knowledge and understanding of safe locks and safe servicing.

If you don't have the knowledge, understanding, ability or tools necessary to properly perform a service, you only have three choices. Either acquire the knowledge, understanding, ability and tools necessary to perform the service; continue to be untrained and do things half-donkeyed; or learn to just Say No!

Am I saying you should never need help, or should never find yourself in the middle of unfamiliar circumstances? No, absolutely not. There is however, a big difference between being unfamiliar, and uneducated. You wouldn't think of leaving your service vehicle for an engine overhaul with an inexperienced mechanic, let alone one that didn't have a clue where to start! Yet, as you read this editorial, there are locksmiths servicing safes, developing master key systems, filing plugs, as well as providing a host of other security related services, that don't have a clue of not only what to do, but what not to do. Let alone have the proper tools to do it.

To obtain the wisdom and understanding about a particular locksmith topic which you may have little insight about, there is a vast amount of resource material at your disposal. Between The National Locksmith, the National Locksmith Automobile Association (NLAA) and the National Safeman's Organization (NSO), not to mention the numerous technical service manuals published by National Publishing, a wealth of information can be gained at a very modest price. For a nominal investment, you can add more wrinkles to that soft convoluted mass of nerve tissue in the cranium of vertebrates, constituting the center of the nervous system and the seat of consciousness and volition (the brain), than you ever dreamed possible! **RL**





N o v e m b e r 1 9 9 6

# Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

## Licensing Should Be Encourage and Embraced

In reply to Greg Mango's Message in the July, 1996, issue, I think that your position in regard to licensing conforms to the majority view, but at the same time, it is terribly shortsighted. The future of physical security has become more and more electronic. It will continue to evolve in an ever more electronic manner. Card access systems are in a neutral zone between the traditional technological territories of both the locksmiths and the alarm companies. As the more advanced technologies become less expensive, locks and alarms will undergo a dramatic change. Locks as we know them will disappear.

Locks will be replaced by proximity card readers that can read a legitimate card from behind a wall at a distance of 2 to 3 feet. The card holder will be able to just walk past the reader without even having to take it out of a wallet or

purse. The reader will not be visible to the people using it. It can be not only behind a wall, but above the ceiling or below the floor. Vandals can't sabotage a card reader until they can at least find it. In addition to being more convenient, it's higher security too.

Those who get a jump on their competition will make more money and grow more in a personal way. So rather than oppose licensing, I believe we should encourage it and embrace it. If locksmiths in Texas need an alarm technician's license to do the most profitable business, then the sooner they get one, the better off they will be.

Get your head out of the sand. Look around and learn. Get those licenses and stop the self pity. Is getting a license a problem? Sure it is. But it is also an opportunity which when successfully breached, will be an avenue to more service opportunities, more money, more success and more personal growth. That's a big part of what life is about.

*John T. Dunn, CML, CAAT  
Pennsylvania*

## An Emergency Rescue by Corby

It was a Friday night and the play I was watching was interrupted when the lights went out. Outside lightning was dancing around the sky and thunder was booming. My pager went off and the usual weather related calls were beginning, or so I thought.

One of my biggest customers called; they have seven buildings on a Corby system 10 Wiegand



entry system. Two of the buildings had locked up during the storm. This was in spite of the fact that all seven building are on an Uninterrupted Power Supply (UPS) completely cut off from the city lines. They also had their own direct feed lines to each building running between them in metal silicon filled conduit. We found out later that the conduit had taken a direct hit and in addition to our bill, their computer repair bill would be more than 150 thousand dollars.

I was at a standstill, the system needed substantial replacement parts and it was now very early Saturday morning. Still I called Corby - on their recorded line - and touch toned in for emergency service and waited. About a 1/2 hour later, the phone rang, it was Glen Matz from Corby. I told him my story of woe and explained that the system had to be completely running by Monday 5:45 A.M. No problem he said and went on to get the necessary information as to

The National Locksmith  
1533 Burgundy Parkway  
Streamwood, IL 60107  
Attn: Editor



## Continued from page 10

what I needed. He arranged to Air Freight the needed equipment to me and personally delivered it to the airline terminal. Three hours later most of the equipment needed was there. Glen called to let me know that he had gotten hold of some other Corby people and they were making and assembling whatever else I needed to complete the job. He promised I would have it Sunday morning as he again would personally deliver it to the terminal.

By Monday morning, I delivered the system up and running along with a significantly large emergency repair bill, now already paid by the customer. I do not think any other company would have put in the time on a Saturday and Sunday to allow us to repair this type of system. In addition, I found out that Glen is president of the company. I cannot see any other CEO doing this for an installing dealer. I say three cheers for Corby and will always use their equipment.

*Michael Heyman  
Maryland*

## Roadside Raise

I received a call from Pontiac Roadside and they asked if I was available for a lockout call. They told me where the car was and I told them I could do it for forty five dollars. Their reply was, we can pay \$52.50, just put that on the invoice. I was surprised.

I am one of the locksmiths that didn't sign the new agreement they sent out, so I guess, now they are raising the rates somewhat. However, I still must set my own rates. If I can do the work for what they want to pay, I will, if not, I don't. It's just that simple.

*Ron  
E-Mail*

## Freedom Lost

After I read the June article "Licensing Part 1" I said "Wow." I have been a part time mobile locksmith for about 12 years and looking forward to an early retirement in about three years and full time locksmithing. I have been a paramedical professional for twenty-seven years. That profession was granted "Certification" by the State of Indiana about three years ago "to protect its turf." A fee was

set for certifying members every two years. Later it became evident that they (the Board) had disciplinary functions.

Just recently, they have initiated a program of competency review to be done every five years and of course it costs more. This last week in an information letter, I was informed that the "powers that be" have staffed the Certification Board well over 50% with "Directors" from outside the profession "who represent the public interest." Our national and state associations pushed for this, but it appears we're losing control. I agree with those that are not in favor of licensing with the State, for I don't see that the ills to be controlled are worth the freedom lost.

*Virgil Ertle  
Indiana*

## Pay-Backs, Oh So Sweet

I read Bob DeWeese's article "Everybody wants a discount" TNL 7/96, and had to chuckle because several of these situations have happened to me. One that has happened to me that you didn't print I call "The Bragger" which goes something like this:

I was called to the bragger's house who tried to convince me she was loaded. It was early evening on a hot summer night. Seems her son's keys to his loaded, and I mean loaded, Ford pick-up were locked in the barn and he had to leave early the next day for Grand Rapids some 70-80 miles. This truck had more toys, whistles and bells on it than Santa's sleigh and the barn was locked with a padlock.

I sweated and drilled on the padlock and finally got it open, all the time listening to the bragger tell me about her big money. You guess it - no keys in the barn. Her son had to leave in the morning, so she asked me if I could make a key for the pick-up. The truck was locked so I opened it and made a key. I gave her the key...mistake...and told her what she owed me.

She handed me a \$20.00 bill and said she'd send the rest. To say the least, I was upset. I then asked her to "let me see the key a minute." I took the key and ambled back to my truck (she was watching me),

got in, started it and drove off. Bye! She may still be there, but I have the ignition key...pay backs!

*Tom Seager  
Michigan*

## Take Those Calls

Don't sell roadside assistance calls short. I have been doing work for RNC ( Pontiac and Chevrolet Roadside assistance) for over a year now and have had no problems. They will usually call when they cannot get a dealership to deliver keys. I have not been asked to sign any contracts.

RNC will call, give me the make, year and model of the vehicle and where the customer is. Then ask if I can help them out. If I am available, we agree on a price. This will vary depending on the distance, day of the week or time of day or night. Usually I tell them my price, sometimes they propose one. I have never been offered less than my normal service call, plus code key. If I am offered less, I have the option of not taking the call.

That settled they ask for my full name and provide the key code, and Case number. After this is accomplished they will connect the locked out customer in a conference call so I can get directions and any other information needed first hand. I then cut the key and deliver it, 99% of the time the key works and the customer is happy ( after all he or she doesn't have to pay).

I then invoice RNC directly. My invoice must show the Case number, customer's name, home address, phone and location of the car. Also needed is the make, year, color, VIN #, mileage and plate number. In reality most of this information we already get when servicing a car. Payment has always been received promptly without problems. I can't think of an easier way to do a lockout, in fact, it is the only type of night call I do. Once in a while a code key doesn't work so I open the car. No sweat.

Don't turn down work just because you have to bill it, they need us and they will pay.

*Roger S. Wechter  
E-Mail*

## Gestapo Is Alive And Well

In the July Mango's Message,



## Continued from page 12

(Under Siege) about Arnold's Key Express and that run in with the bureaucratic mess, reminds me of what can happen here in Palm Beach County!

I am 78 years old and a retired locksmith shop owner. In 1987, I quit locksmithing due to bad eyesight. My wife is 75, a retired nurse and neither of us are employable and on social security. I have a small veterans disability pension and an income garage apartment, which is a liability as people don't pay their rent often times and trash the place! We were just barely making it when the drunk we made move out of the apartment got his girlfriend up the street to file a complaint with the zoning board because I had a leaking roof and stopped the leaks with a few sheets of roofing paper, which I never dreamed would require a permit since I owned the property outright. So far, over this vindictive mess, it has cost me four times the normal fee for a permit and only four months instead of the normal six to get a new roof put on, at horrendous money for a little guy like myself!

In World War II and before, I flew to Africa many times to help put Hitler and his Gestapo out of business. It looks like his methods are still alive and well here with the native Gestapo and the Hitler heartless bureaucrats to carry it out.

I hope I did not make too many errors in this letter as legally I am now blind! We are losing our precious freedom every day with a bunch of impractical and self serving stupid laws. In ten more years, you will probably need to have a permit to use your bathroom! Thank goodness I won't be around as I have a bad heart. I still enjoy reading your magazine as I have a high powered magnifier over my glasses with which to make it possible.

*E.H. Wilbur  
Florida*

## The Key To Prosperity

There's always room to learn more. Whether it comes from traditional school with lectures and lab work, a manufacturer's one day seminar with overnight stay at the local hotel or an on-site instructor camped out in your business.

Keeping up with current technologies, latest materials and having a good grasp on proper techniques and business practices, is the root of success.

When you and your employees spend time learning service techniques, installation methods, salesmanship or shop maintenance, your shop becomes a better operation. The time spent cracking the books or being instructed in hands-on techniques not only provide you with the skills to make a living, but with the talent to prosper. Like the old television ad said, "Americans don't just want to survive, they want to succeed".

Even if you only need the occasional refresher, taking advantage of the available training for your employees can make the difference between succeeding and simply surviving. Your national and local associations, along with your distributors, trade magazines, manufacturers and their representatives work hard to provide you with the power of information necessary to succeed.

Reading textbooks and operations manuals, scribbling notes in your composition books and practicing real world applications, can give you a better run business, better prepared employees and hopefully a better performing, more profitable shop.

*Tom Lynch, President  
North Jersey Master Locksmith  
Association*

## Hope You Stay Number 1

Marc, we hope you stay numero uno for a long time and we are quite sure you will. Your willingness to try new ideas is what impresses us and we appreciate a magazine that still allows its readers to contribute tips every month. It allows us to feel part of the team. I notice your competition has quit running tips monthly and I believe decisions like that will allow you to get many more subscribers from them as well as new ones.

Thanks for a great magazine, and my only wish is that you would print an alarm industry magazine as well.

*Keypros  
E-Mail*

## A Disabling Decision

We can plan for just about any locksmith security problem in the industry, but perhaps not a medical problem of catastrophic illness overnight. That's Right!

Osteoarthritis. Ever since I graduated from Professional Locksmithing, and Security School, I enjoyed helping the public, and saying yes when help was needed. This disease, however, can quickly change your answer to no, due to it's paralyzing affects on the muscles and skeletal system. That's what happened over night, starting 8/1/96, after a good day at the helm. That's when I suddenly had to say no to lockouts, roadside service, etc. because this disease affected my walking, bending, lifting or total working capabilities.


The term is LS Lowbar Pain Lumbago which effect the sciatic nerve at your vertebrae and disks, transmitting pain to the leg muscles with spasms. It can strike without notice, and change your total lifestyle. It can change your total outlook toward the handicap, since you are then among them with nobody to turn to, exempt your physician or a special friend. I found out who my friend(s) were real quick. There's only two.

*Willie Bowen  
Virginia*

## A Simple Solution

I would like to comment on a letter on page 8 of the January, '96 issue. The heading of this letter is "Spline Key Extractor".

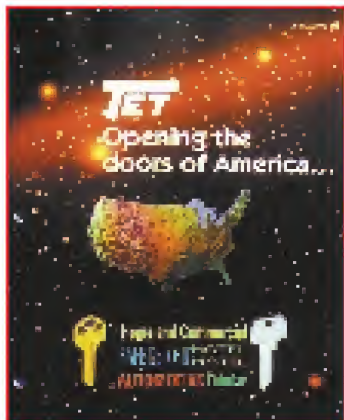
A long time ago, someone told me Mosler discontinued making the spline key mentioned in this letter because of breakage, I have not had that problem. The letter describes the key as the round spline and the double prong. The purpose of my comment is to EDUCATE and not CRITICIZE. If this key is like the ones I have encountered, it had a hole in the center and it is threaded. This can be overlooked easily if you are not aware the hole is threaded. A back cover screw can be screwed into this hole and it acts like a puller. I have had no trouble removing this type spline key using this method.

*Kenneth P. Lee, CPL  
Oklahoma*  




## S E C U R I T Y C A F É

## New Catalog From J et



From the front cover with the unique key die cut to the back cover, JET HARDWARE has created the most spectacular key blank catalog ever published in the history of the industry! Titled, "JET is OPENING the DOORS of AMERICA and the WORLD." Accurate drawings and pictures are represented on every page. In previous catalogs, when a different keyway was normally pictured, it showed only a silhouette. Jet's new catalog now indicates partial blades. This feature makes it very easy to identify keys.

Every year when Jet Hardware introduces a new catalog they also request a small donation to the American Cancer Society. Jet has raised thousands of dollars, donated by the Locksmith Industry to help this very worthy cause. For a copy of the catalog, please make a check for \$2.00 or more, payable to the American Cancer Society and send it along with your name, address, city, state, and zipcode to: Jet Hardware Mfg. Corp., 800 Hinsdale Street, Brooklyn, NY 11207

## Mytek's New SS-100

Mytek America's new SS-100 underhood RF mini siren alarm auto security system, is the latest surface mount technology down-sized version of a previously successful compact one-piece design. Several new beneficial customer features, such as:

personal protection remote alarm, personalized remote code learning, remote chirp elimination control, user selectable audible theft warning deterrent, user selectable voltage drop detector, user adjustable auto body shock and glass break detector, electric afterfan motor detector, audible alarm memory and diagnostic reporting and



blanked and milled to make duplication easy in any machine. This new design has also been tested to over 200,000 insertions with no significant wear.

## Access Technology, Inc.

Access Technology announces a new model of the Accessor. The "G" or Gate/Fence model mounts on a chain link or wood fence and has an internal capacity of 700 individual 4,5,6 or 7 digit codes. It is battery powered and provides an audit trail of date, time and user ID for the most recent 2000 openings. By entering a valid code the door can be opened to expose a knob. Pull the knob and a

show consumers prefer plug-in chimes over battery types by a 2-to-1 margin, Trine Products Company has introduced a series of beautiful wireless chimes. These lustrous, all white units boast an 8-note Westminster Chime melody, operating range of up to 200 ft. (through doors, walls, even partitions). Each contain a volume control, an on/off



switch and 64 built-in codes to insure against false triggering from other devices. The chimes can be plugged into any floor or countertop outlet.

## Cablemate-Cable Fault Detector

Advanced Electronic Applications' new CableMate Cable Fault Detector, quickly and accurately locates faults in coaxial and two-wire cables. CableMate graphically indicates the severity of faults and the distance from you to the fault. The distance is displayed numerically in feet (16 to 2000 feet) or in meters. The unit can easily be held in the hand and is battery powered. The use of on-screen menus simplifies


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peripheral trigger input circuits are available.

## ALL-LOCK Introduces Replacement VATS Keys

ALL-LOCK offers both single and double sided keys in all resistor values. The resistor is molded into the blank. There is no "pellet" to lose or fall out of the key. Each top quality brass nickel plated key is carefully



shackle drops down to free one end of a chain. It's simple!

## Trine Wireless Chimes

Consistent with surveys that



## SECURITY CAFÉ

operation for untrained personnel. In addition, on-screen help is available for virtually all functions so that it is not necessary to carry the manual along.

### A Security Break-through to Prevent Break-Ins



CIRCLE NUMBER  
281

SECURIMAX is a new residential door reinforcing system specially designed to protect homes from one of the most popular form of break-ins: door striking. Heavy duty, but decorative metal plates, reinforce both the door and the frame at their weakest points to prevent splitting under impact. The SECURIMAX system meets ASTM F476-84, Grade 40 (the highest protection level against vandalism). It is easily installed on new or existing doors and frames and compatible with existing security locks and handles. Available in black, white, solid polished brass or stainless steel.

### DoorKing Adds Features to 1812

DoorKing is pleased to announce that their popular model 1812 residential telephone intercom system now includes an internal seven day programmable time clock, time zones, the ability to call outside phone numbers, and includes other expanded features. The 1812, a "No Phone Line" system, provides communication and control of a door or gate through a resident's telephone without the need for a dedicated central office



CIRCLE NUMBER  
282

phone line. The unit is available in surface or flush mount designs, and has gold plating options for an elegant look.

### Added Profits for Locksmiths



CIRCLE NUMBER  
283

Added profits are readily available for locksmiths with Chicago Lock Company's new "user-friendly" Ace II® Key Handle Covers. Key Handle Covers come in ten bright colors for easy identification. Chicago Lock calls them "user friendly" because their larger size allows for better grip and control of the key. Key Covers are available from your local distributor.

### Low Profile Inset Exit Device from Adams Rite

Adams Rite Manufacturing Co.,

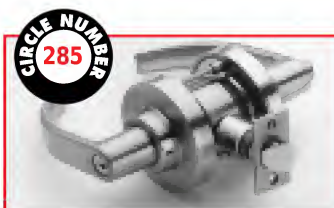
CIRCLE NUMBER  
284



has introduced an Inset Exit Device that maximizes clear opening width for hollow metal and metal stile glass doors. This attractive, practical and ADA-friendly exit device utilizes an Adam5 Rite pushbar sunk into the door itself. It protrudes about one inch from the door surface, becoming nearly flush when depressed or dogged. Both mortise and concealed rod styles exceed UL burglary-resistant requirements for security and are available in top rod only and fire-rated versions.

### Marks Survivor Series Key-in-Lever Lockset

Marks USA, is introducing the second design in its



Survivor series key-in-lever cylindrical locksets. The original "American", is a very popular design with an angular return to within 1/2" of the door surface. The new "Crescent" offers a more smooth design flow of the lever which will also return to within 1/2" of the door surface. Both designs feature the "Clutch" mechanism and are available to meet the specifications of the present ANSI grade 1, as well as the new proposed ANSI grade 1, expected to be adopted in 1996. These locksets will satisfy all ADA requirements, are UL listed for 3 hour fire rating, and meet the design standards for those states requiring the 1/2" lever return.

### New Sentry Security Fire Safe

For those who want superior protection in a fire safe, one that will survive even if



CIRCLE NUMBER  
286

the home doesn't, there's a new Sentry on duty providing "advanced, affordable and assuring" fire security. Designed to protect irreplaceable documents and precious keepsakes during the most severe home or office fires, the new Sentry Fire Safe® Model 3100 offers two full hours of Underwriters Laboratories (UL) tested fire protection up to 1850 degrees. In addition to maximum fire protection, the new Model 3100 is theft-resistant and features six live-locking bolts, optional floor/wall bolt down system, pry-resistant butted seams, flush door design, and privacy shroud around dial. **UL**



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**GENERAL SECURITY**  
**Test Article #139**



by  
**Jake**  
**Jakubuski**

# simply **M.A.G.**nificent

To enhance the security of any store front aluminum door,  
installing a latch guard is a good place to start.

**J**ust in case you are not familiar with the name of M.A.G. Engineering and Manufacturing, it manufactures the famous INSTALL-A-LOCK door reinforces that has saved me - and a whole slew of other locksmiths - out of a jam or two during our careers. At any rate, M.A.G. started making door and window hardware about twenty-nine years ago and now have over thirty patents on all kinds of hardware.

M.A.G. developed their commercial latch guard line when they realized that besides some higher priced latch protection devices in the market place, there just didn't seem to be anything available that offered tough economical latch protection. This was especially true for double narrow stile doors, with MS type latches and dead bolts or hook bolts. I know you have seen the havoc a crook with a crowbar can wreak on a pair of aluminum doors!

The latch guards shown in Photograph 1, will cover nearly all the

applications you're going to get calls for. There are models for double-action (in-swinging or out-swinging) doors, doors with MS latches and center hung narrow stile doors with either a four inch or a four-and-a-half-inch jamb, and models for flush jams. Most all of them have "anti-spread pins" that fit into holes drilled in the jamb or frame. The anti-spread pins (see arrows in Photograph 2) literally make the door and jamb a single unit. In the case of double doors, the anti-spread pins lock the two doors together for security, and it does it without compromising Life Safety Codes! How's that for "slick"? I'll tell you how it works later.

As soon as I received the latch guards, I went looking for doors to put them on. I find it amazing how many opportunities to sell (oops! there's that nasty "S" word. Sorry, it just slipped right on out) present themselves when you're actually looking for ways to make money!

The first "oppor-tunity" that came along was from a photography lab and studio. It called me to rekey the front doors and secure the back door of their new location. The front entrance was a pair of double center hung, narrow stile store front doors that swung both ways. One of the problems with most latch guard products is once they're on a double action door, the



**2. Arrows indicate the anti-spread pins which lock the two doors together.**

door can only swing one way. This is inconvenient to say the least. M.A.G. went around that problem slicker than a fox raiding a hen-house. They made several of their latch guard models removable, but only when the door's in the unlocked mode!

How hard is it to install these units? Well why don't you follow my first installation and decide for yourself. There's just one thing I want you to know; the latch guards that I'm showing to install, is twelve inches long. On many doors you encounter, you're going to find that the pull handles or crash bars on the doors are



**1. M.A.G.'s narrow stile door latch guards.**

**Continued on page 20**



Continued from page 18



**3. Loosening the Allen screws at each end of the crash bar is the first step to removing the bar.**

going to have to be lowered (The exception to that would be the 8858 series). Believe me when I tell you, its not a big deal, and I'm going to show you how to do it.

The first thing you need to determine when selling a job like this is the type of latch guard your going to need. In this particular case, I used an 8854-AL. That's a twelve inch long



**4. Remove the bolts that secure the crash bar mounting blocks.**

removable latch guard with anti-spread pins and built-in cylinder guard. It mounts flush on in-swinging or out-swinging center hung single or double doors. The 8854, like the other heavy-duty M.A.G. latch guards, is formed from heavy gauge steel. The only fly in this here ointment, is the fact that the crash bars will have to be lowered about an inch-and-a-half to accommodate the 8854.

Photograph 3, shows me loosening the Allen screw that secures the bar in place. There's one Allen screw on each bracket that holds the crash bar in place. Photograph 4, shows me removing the bracket (there's four on each door, two inside and two outside).

To mount the bars in the new position, I drilled holes to accept a Curtis (Part #87596) compression fitting which is easily applied with Curtis's Gripert Tool (Part #

87026). I used 1/4 X 20 panhead screws in the former holes used to hang the crash bars to "dress" the door. It takes me about a half-hour to relocate a set of crash bars on a pair of narrow stile doors.

Photograph 5, shows the crash bar in the new position. You can see the original mounting holes just above the mounting block. The two widely separated holes near the door edge are to receive the anti-spread pins on the latch guard.

The next step is blocking the door open and placing the latch guard over the mortise cylinder as shown in Photograph 2. Using the drill



**5. The crash bar has been repositioned and the anti-spread pin holes drilled.**

point locator that M.A.G. supplies with each of these latch guards, place it in the cut out and hit it with a small hammer which will leave a punch mark. At that mark, drill a hole completely through both sides of the aluminum door frame and mount the carriage bolts provided, using cap nuts to dress up the installation and mount the latch guard as shown earlier.

The next step is to allow the door to close against the jamb (In this case the inactive door) and mark the drill sites for the anti-spread pins. Drill the holes, make sure the door closes and locks properly and your done! If the door does not close and lock properly, then check the anti-spread pin holes and make sure the pins are not binding as the door comes to the closed position.

Photograph 6, shows a M.A.G. latch guard installed on the photographer's studio door. If you notice, the latch guard is "tilted" to the removable position. All you need to do now is lift it off and put it away for safe keeping. Now, I dare you to tell me that don't





**A**



**B**

**6. The latch guard is removed by first tilting then removing.**

beat anything you ever did see! Also, take note of the fact that the M. A. G. latch guard is a cylinder guard as well; which would keep a thug from wrenching the cylinder out of the lock case. If you wanted to make the latch guard non-removable, just insert the "slug" in the hole before bolting the latch guard to the door

When the guard is on the door and the door is closed and locked, the guard can't be removed. The anti-spread pins that fit into the inactive door - or the jamb depending on the type you're installing - which makes the two separate components almost as strong as a single unit.

As you can see, the M.A.G. latch guards are not at all difficult to install. The first installation (including moving the crash bars) took me about an hour-and-a-half (including the time to take the photographs). Once on the door, the M. A. G. latch guards not only give superior

protection to the lock area of the door, it signals to would-be thieves that this particular door isn't going to be a pushover

The 8854-AL, has a suggested list price of \$19.95. In my opinion, high-quality specialty door hardware products that do the job its supposed to do, is what you would expect from M. A. G. Engineering and Manufacturing. I've had consistently good results using M. A. G. products, and I've made a few shekels in the process as well. This convinces me that this latch guard series is, well "Simply M. A. G. Nificent!"

For more information on M.A.G. products, pricing and availability, contact your favorite locksmith supply distributor, or contact M.A.G. for a distributor near you: Phone: 800-624-9942, Fax: 714-892-6845.

Tell 'em, "Jake, sent me". Y'all heah me, now? **TNL**

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**AUTOMOTIVE SECURITY**  
Test Article #140



by Michael Hyde

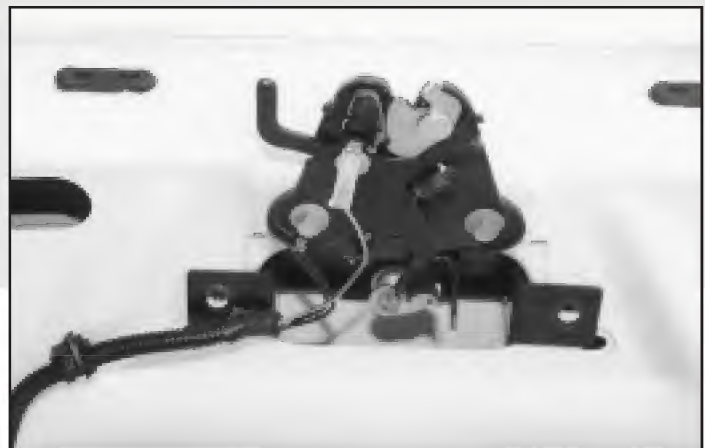
# Servicing the 1996 Dodge Stratus, part 3

This month we will complete our three part series on the Dodge Stratus by covering the trunk lock, rear seat lock and glove box lock.

## TRUNK LOCK:



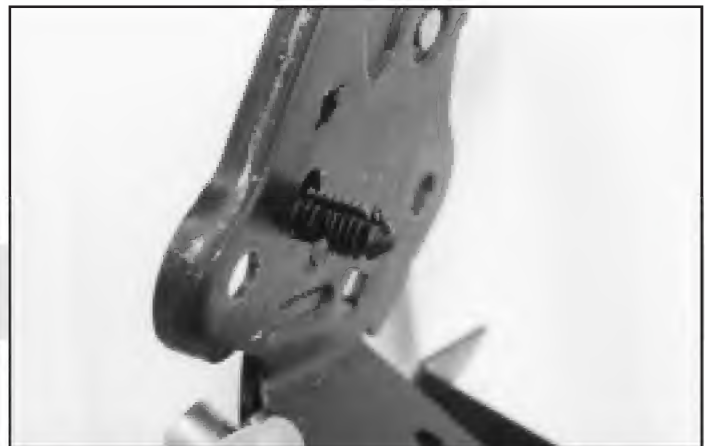
1. A view of the trunk lock cylinder from the outside.



3. With the cover removed there are two more bolts to remove.



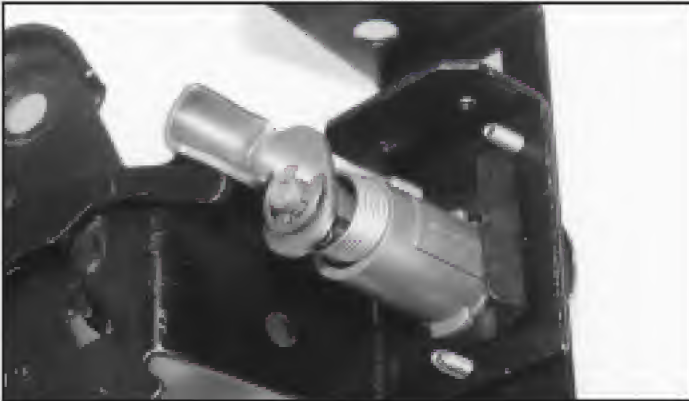
2. To service the trunk lock you will need to remove the plastic cover that sits on the latch mechanism. Next remove the two 10mm bolts on the upper bracket.



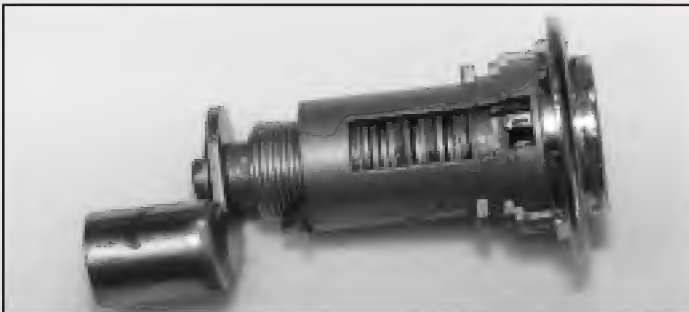
4. The latch/lock bracket is held to the deck lid also by a push-in plastic clip.



Continued from page 22



5. To remove the lock cylinder from the latch bracket, slide off the horseshoe clip.



6. The lock cylinder contains all seven tumblers.



7. Disassembly of the original trunk lock cylinder is not recommended, the face cap is pressed on. You should use the replacement service package from Strattec. Strattec part number #702787.

### REAR SEAT LOCK:



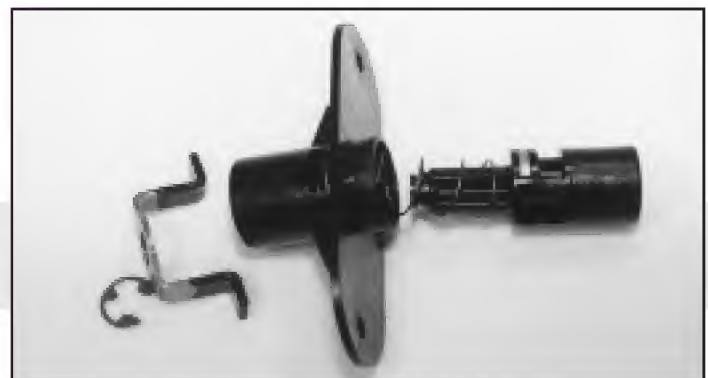
8. This car is equipped with a rear seat lock. Remove the plastic trim ring from the top of the lock.



9. Next, remove the lower section of the rear seat, and then remove the two bolts that hold the upper portion of the rear seat. The bolts are exposed once the lower portion is removed.



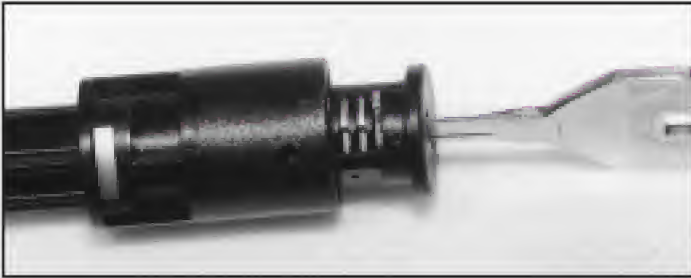
10. With the seat cushions removed, it is necessary to unsnap the plastic trim that goes around the edge of the outline of where the upper portion of the rear seat was. Once that is done you can now lift up on the rear deck liner to gain access to unscrew the two phillips-head screws that hold the seat lock in place.



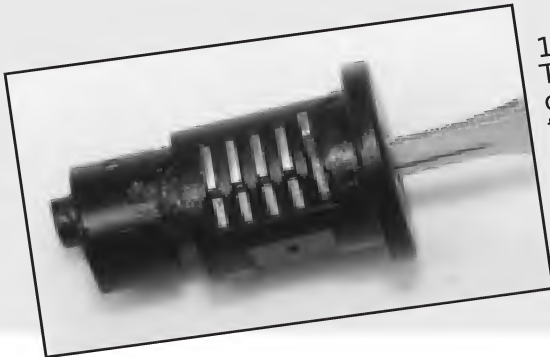
11. Once the cylinder is removed from the car you will then need to remove the clip that holds the tailpiece on. Watch out as the unit is spring loaded.



Continued from page 24



12. Insert the working key and depress the retainer through the access hole, which will allow you to rotate the cylinder a little farther to slide out the plug.

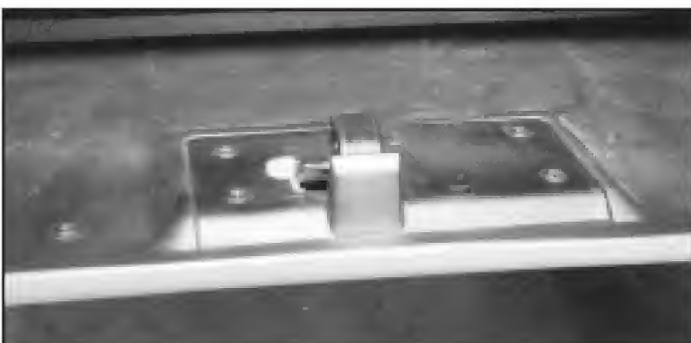


13. The plug contains tumblers in the four through seventh positions.

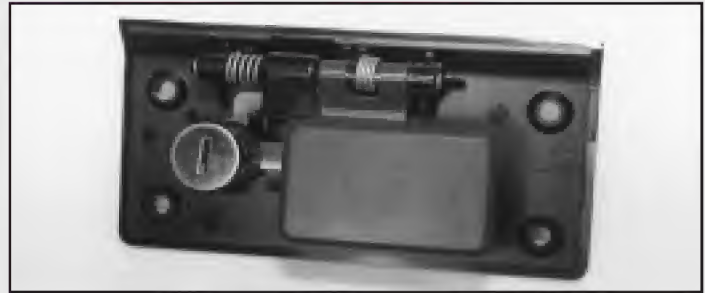
## GLOVE BOX:



14. A view of the glove lock from the outside.



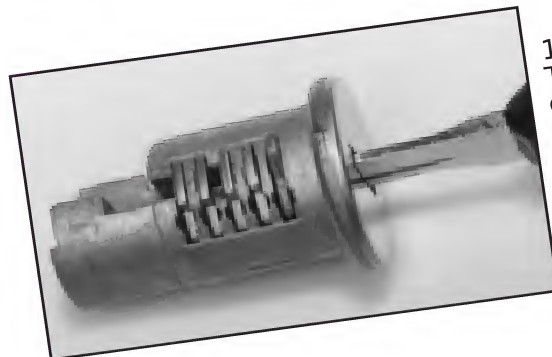
15. To service the glove box lock it will be necessary to remove the four Phillips-head screws that hold it to the glove box door.



16. A view of the glove box lock and latch assembly removed from the car.



17. Insert the working key and depress the retainer through the access hole, which will allow you to rotate the cylinder a little farther to slide out the plug.



18. The plug contains tumblers in the four through seventh positions.

## MAKING FIRST KEY:

Method One: Use a 'EEZ Reader' in the door to obtain cuts in positions 1 through 7, for a complete key.

Method Two: Use try-out keys to determine the cuts.

Method Three: Disassemble door lock to obtain all the necessary cuts in positions 1 through 7, for a complete key.

Code Series: L0001-3580  
Key Blank: Ilco Y157 / Silca CY22  
Reed Codes: 11-05-016  
HPC 1200CM # X60  
M.A.C.S.: 2  
First cut: .297 (from tip)  
FRAM ON: Use Ford 5 pin clip  
and set for first cut @ .052  
Cut to Cut: .092  
Depths: 1=.340, 2=.315, 3=.290, 4=.265

TNL





**ELECTRONIC SECURITY**  
Test Article #141

# HELLO, PASSWORD PLEASE!



by  
**Steve Gebbia**

*Installing an access control system from start to finish,  
using both an Aiphone intercom and Rutherford electric strike.*



**1. This intercom system consists of three components: the master station, the door station, and the power supply.**



**2. Pop out a few ceiling panels and look for other existing wires.**

**I**ntercom systems. Do you sell and install them? If you don't, you should.

Just think about some of the places that intercoms are used: apartment buildings (large and small), office buildings (front vestibule entry), warehouse loading dock doors, and delivery doors for many small businesses. Almost every one of your existing commercial, industrial, and institutional customers have a need for an intercom. The need and the customers are there.

The newest generation of intercoms are very easy to install. Many of the simpler entry security or access control intercoms only require two-conductor, non-shielded wire, the same as a doorbell. If you can install an electric strike, you can install an intercom and the simple two-wire systems are not only the best products to start with, but also the ones that fit most of the entry security or access control applications. Once you are comfortable installing intercoms, it's



**3. Mark mounting screw location for the door station.**





**4. Drill holes for screw locations and set screw anchors.**

an easy step up to installing other electronic devices such as access control systems. After all, an intercom system tied into an electric strike is a basic access control system. In order to gain entry you must first request access and then someone must release the strike to allow you to enter.

Aiphone makes a variety of intercom systems from a basic single door system to multiple station systems for apartment buildings. It even makes systems that integrate voice and video into one unit.



One of the most basic models is the Access Sentry (LEM-1DLS). This is a single door, voice-only system.

#### **System Components**

The system comes as a complete boxed set which consists of three components: master room station, door station, and power supply/transformer: (see Photograph 1). Add your own 2-conductor wire and you have a complete intercom system. But, to get full usefulness from it, you should add an electric strike to complete the system. This way not only can your customer talk to a



**5. Attach unit using tamper-resistant screws to resist vandalism.**

visitor, they can release the door to let them in.

This system has a "dry contact" for the door strike. This means that the switch that releases the strike is not powered. With the Access Sentry the supplied transformer will power both the intercom and door strike if you use an Aiphone strike. If you use another brand of strike you will need to provide a second transformer to power it. In this installation, we are going to use a Rutherford strike



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**6. Locate and install the wire mold used to contain and protect the wire run from the door station to the frame.**

which will require a second transformer to be used.

Before starting any electrical installation, familiarize yourself with



**7. Drill an access hole through the frame to run wires from the intercom to the master station.**

procedures you may need to follow, or specific licenses may be required.

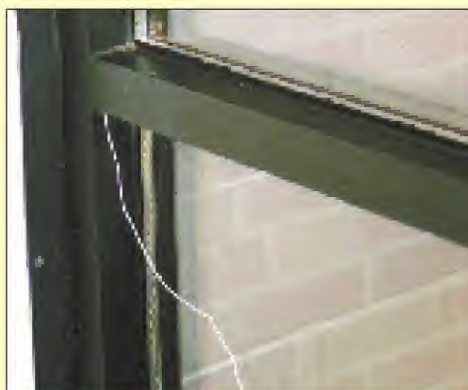
#### The Where

The site of this job is a public building where evening meetings are held. Since people often arrived late for meetings, the outside door had to remain unlocked. The solution was to install an intercom between the front door and the Board Room upstairs. An electric strike allows access for those arriving late.

#### The Site Survey

When you are called for an estimate, take a trip to the job site. This will give you the opportunity to look at several things, each of which will affect how much time you'll spend on the job. You'll be able to give a much more accurate estimate and you'll know exactly what you are getting yourself into.

Look at the door and the frame. Knowing the type of lock on the door and the dimensions of the door frame will help you select the proper strike. At this point you are not really concerned with voltage requirements. You are looking for a strike - and possibly a new lock - that will physically fit your door and frame.



**8. Put a small "U" bend in the end of your pull wire and attach the intercom wire and wrap with tape to secure, then pull the wire from the intercom inside the building.**



**9. Remove the door station, connect the wires and re-attach the unit. Then securely attach the wire mold to hide wiring.**





Continued from page 30



**10. Remove the existing strike plate on the door frame.**

**L**ook for an electrical source to power the system. This can be located anywhere near the master station. Ideally, it should be in a concealed location, out of sight and out of harm's way. In this particular installation, an electrician was called in to install an electrical outlet above the ceiling near the location of the master station.

While looking at the site, trace out possible wiring paths. Pop out a few ceiling panels and look for other existing wires. You may find a bundle of wires that lead your direction (see Photograph 2).

#### The Wiring

This system has the following wiring requirements:

- from door station to master station: (2) conductors
- from electric strike to master station: (2) conductors
- from power transformer to master station: (2) conductors
- from power transformer to electric strike: (2) conductors

The wires that carry power to the strike do not need to run all the way to the strike, in fact, it's easier if they don't. Split power across one of the leads from the strike to the master station. The wiring diagram should make this easier to understand.

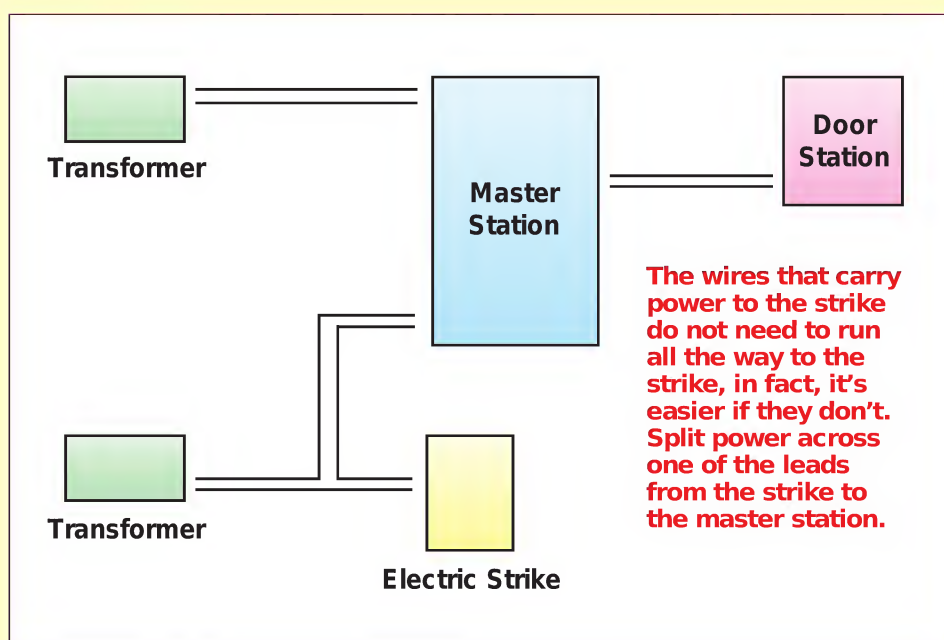
The strike and the door station both require 2 conductors leading to the vicinity of the master station. We could either run two 2-conductor wires or one 4-conductor wire. To simplify matters, the 2-conductor from the door station and the 2-conductor from the strike were spliced into one 4-conductor cable. Two wires were used for the strike and two for the door station.



**11. Mark your layout lines for the new strike using the latch bolt as the centering guide.**



**12. Drill and tap the door frame for the installation of the strike plate router template.**



**Wiring Diagram.**



### The Door Station

The first component installed was the door station. This required two anchors to be placed into the brick exterior near the entrance. Locate the unit at a height convenient for the end users. If the majority of users will be children you'll need to place it lower than if adults would be the primary users. To install:

Mark mounting screw location for the door station (see Photograph 3).

Drill holes for screw locations and set screw anchors (see Photograph 4).

Attach unit using tamper-resistant screws to resist vandalism (see Photograph 5).

Once the door station is installed, you can locate and install the wire mold used to contain and protect the wire run from the door station to the frame. Use the same procedure to install the wire mold as the door station (see Photograph 6).

To bring the wire inside, you will need to drill an access hole through the frame to run wires from the intercom to the master station (see Photograph 7).



**13. Route the opening for the electric strike then clean the edges with a file for a finished look.**

Using a small, stiff wire, run the wire through the frame to the outside. Put a small "U" bend in the end of your pull wire and attach the intercom wire and wrap with tape to secure, then pull the wire from the intercom inside the building (see Photograph 8).

Next, remove the door station, connect the wires and re-attach the unit. Then securely attach the wire mold to hide wiring (see Photograph 9). To protect the door station, lay a bead of silicon caulk around the top

and sides of the unit. Don't caulk all the way around, though. Leave a gap at the bottom for any condensation to weep out.

### The Electric Strike

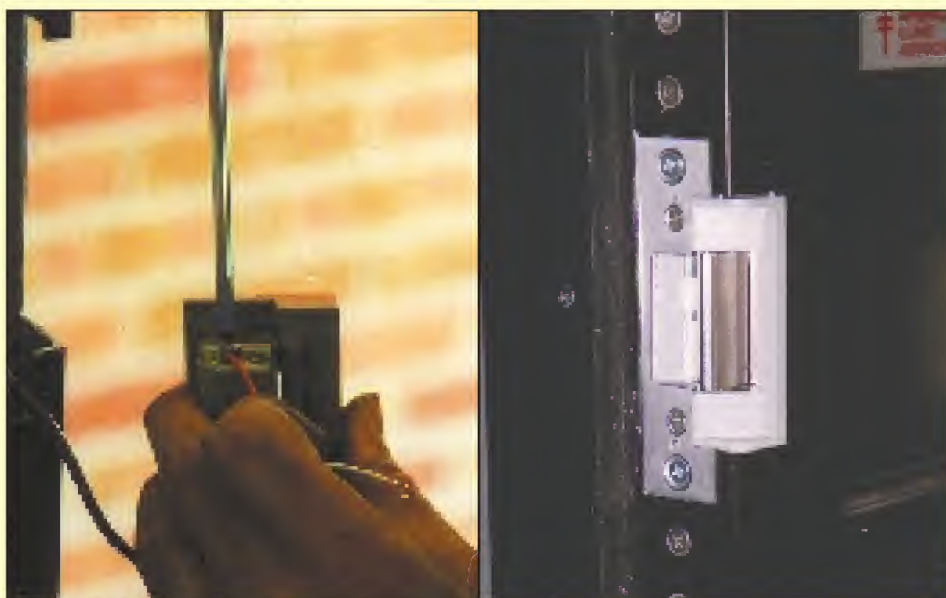
This door already had both a deadbolt and a deadlatch installed on it. All that was necessary was to modify the frame opening for the new strike. A router and strike template was used for this. To do so:



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**14. Pull the wires to the strike then connect the strike and install.**



**15. At each wall or floor that the wire had to pass through, there were existing wires that could be followed.**



**16. Nice-Duc is made by Sentrol and is very versatile for running low-voltage wires across area's where wire cannot be concealed.**



**17. All of the wiring terminals are clearly marked on the Aiphone master station. Simply connect the wires to the appropriate terminals.**

Remove the existing strike plate on the door frame (see Photograph 10).

Mark your layout lines for the new strike using the latch bolt as the centering guide (see Photograph 11).

Drill and tap the door frame for the installation of the strike plate router template, which needed to be affixed to the frame (see Photograph 12).

Route the opening for the electric strike then clean the edges with a file for a finished look (see Photograph 13).

Pull the wires to the strike using the same technique used for the intercom wires, then connect the strike and install (see Photograph 14).

The strike chosen for this job is a Rutherford Controls model 4114. This is a very durable strike that holds up well in medium traffic areas - and is reasonably priced.

#### **Pulling the Wires**

A single 4-conductor cable was pulled from the location of the master station all the way back to the front door. This required going across a suspended ceiling, down through an existing wiring chase, through a floor, across another ceiling, through a wall, across another ceiling, and down a block wall.

At each wall or floor that the wire had to pass through, there were existing wires that could be followed (see Photograph 15). This isn't always the case however. Often you will need to drill holes to pull the wires through. Keep this in mind when surveying the site.

To bring the wire down the cement block wall which was spliced into the intercom and electric strike, plastic wire mold was used to conceal the exposed wire. Nice-Duc is made by Sentrol and is very versatile for running low-voltage wires across area's where wire cannot be concealed (see Photograph 16).

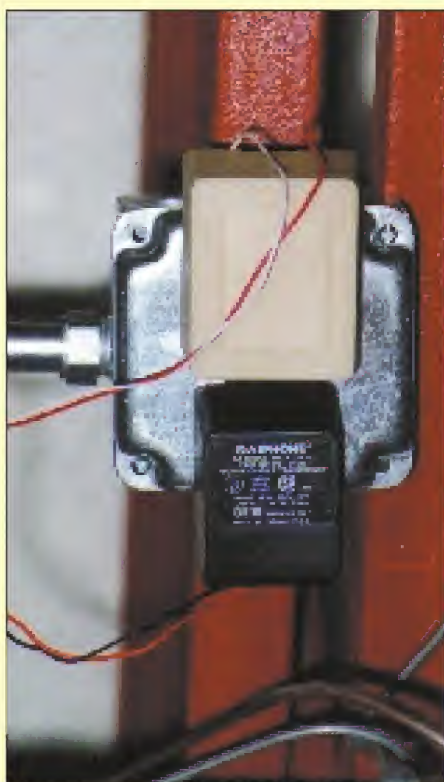
Pulling these wires took as long or longer than installing the door station and the electric strike. This is one thing you will quickly learn. Allow plenty of time for pulling the wire!

Once the wire was in place, the two 2-conductor wires could be spliced into the 4-conductor cable. This was done below the horizontal window divider. The wires were then placed inside a piece of Nice-Duc which was attached to the underside of the

**Continued on page 36**



Continued from page 34



**18. Once you are certain everything is hooked up properly, plug in the transformers.**

divider. The result is an attractive, concealed wiring job.

#### The Master Station

The master station was installed on a conventional stud wall. This allowed for totally concealed wiring. Once it was determined where to mount the unit, a wiring hole was drilled. Access was gained to the wall cavity by removing a few ceiling panels. The wire was then fed down the wall. A small bent wire was used to pull the wire through the wiring access hole. Before you can pull the wire through the hole you have to find it. This is where practice and experience comes in. You may get lucky and find it right away - but don't count on it!

All of the wiring terminals are clearly marked on the Aiphone master station. Simply connect the wires to the appropriate terminals (see Photograph 17). The only hard part is remembering what each wire is for. To make your job easier, you may want to place small labels on each wire. This will also help if you ever need to work on the system in the future.



**19. If everything works properly, the job is complete.**

#### Finishing Up

Almost done. Go ahead and connect the transformers, but don't plug them in just yet. First double-check all your wiring connections. Once you are certain everything is hooked up properly, plug in the transformers. Remember there are two, one for the intercom and one for the electric strike (see Photograph 18).

Check for proper operation of the system. Have your helper - or the customer - press the call button. You should be able to hear each other clearly. Adjust the volume control - and test the "off" button, then try releasing the strike. If everything works properly, the job is complete (see Photograph 19).

This job took the better part of a day - from 9:00 a.m. until 3:30 p.m. And there were two people pulling the wires. It is not hard to install these systems, just remember that in many cases it will take you longer than you expect to run the wires. But don't be discouraged, be prepared. Know that the wiring will take time and allow for it.

There is a definite learning curve when dealing with low-voltage electrical work. But it is worth the effort. Think of the benefits. You've taken on a new, profitable area. You've expanded your skills. And you've built the foundation for advancement into other areas - such as access control systems. Now isn't that worth a few growing pains?

For more information on Aiphone or Rutherford Controls, call: Aiphone (206) 455-0510. Rutherford Controls (800) 899-5625. **TNL**

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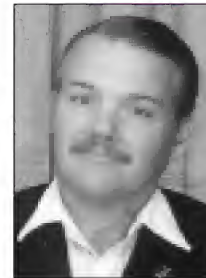
**"THERE'S A MAN HERE TO SEE YOU IN ANSWER  
TO OUR AD FOR SOMEONE WITH A LOT OF  
EXPERIENCE WITH BURGLAR ALARMS..."**

*Dave Howell*



# BEGINNER'S CORNER

## The Harlock #50 CL Entry Lever Lock



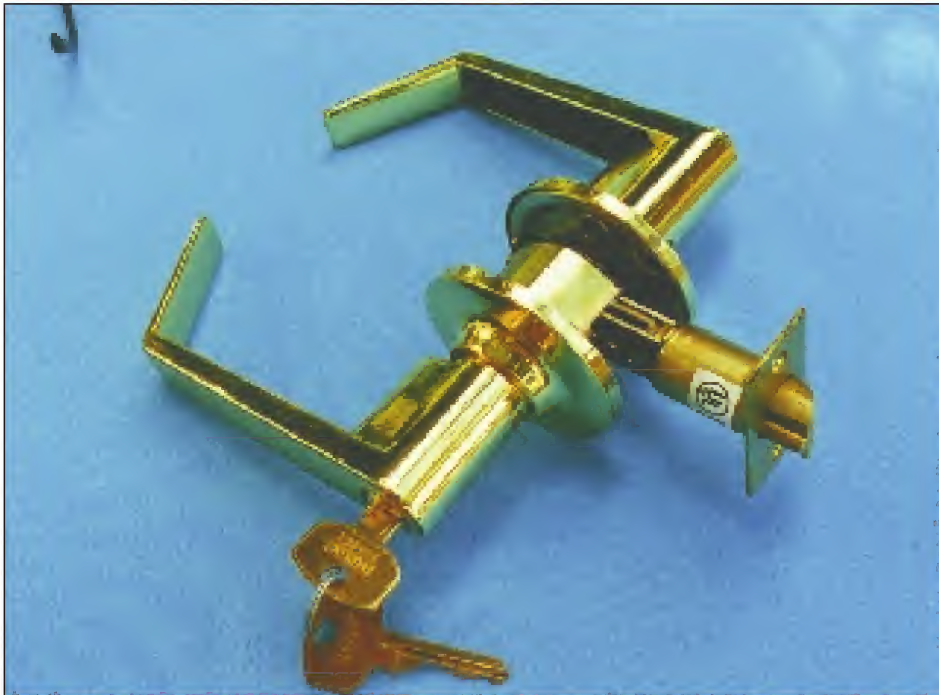
by  
**Jim Langston**

**T**he Harlock entry lever lock is a relatively inexpensive lever lock that will fit a number of applications. The lock features a solid brass cylinder assembly; a square spindle assembly; a steel latch guard to fend against an ice pick attack; and a UL 1-

1/2 hour fire rated latch bolt. The Harlock entry lever is available in US3, US5, US10B, US26 and US26D finishes (see Photograph 1).

Installation of the lock requires no special preparation. A 2-1/8"

crossbore and a 1" latch bore is all that is required. This lever lock does not utilize through bolts outside the crossbore to prevent the cylindrical body housing from turning if forced. This would require drilling two extra holes for the through bolts. Instead, the steel latch guard built into the lock will prevent the body housing from turning if forced. The latch guard was not designed for this purpose, but it does serve the function.



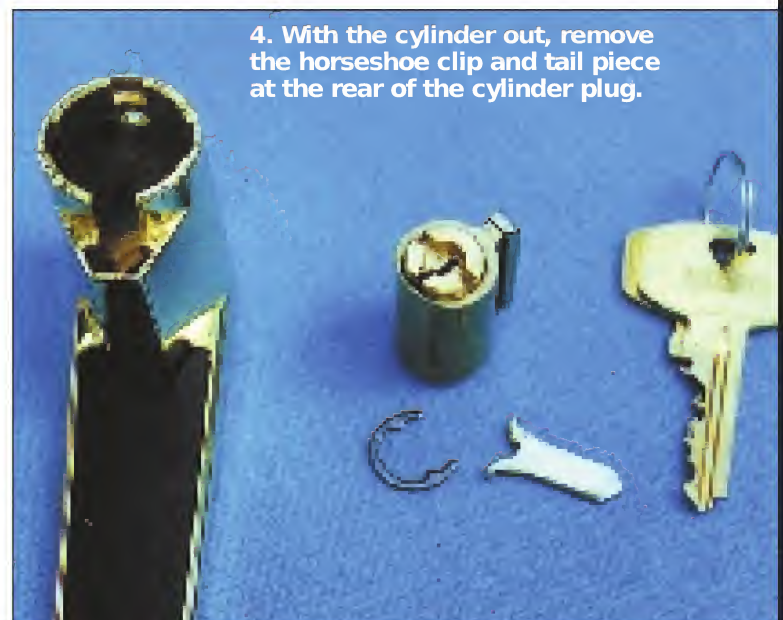
**1. The Harlock #50 CL Entry Lever Lock**



**3. Remove the inside cylinder, being very careful not to drop the front inside cylinder ring.**



**2. To rekey this lock, insert the operating key and turn clockwise until the key stops.**



**4. With the cylinder out, remove the horseshoe clip and tail piece at the rear of the cylinder plug.**



The outside lever handle is rigid when in the locked position. If excessive pressure is applied to the handle, it will break rendering the lock useless.

Should you need to rekey this lock, the service procedure is quite simple.

To rekey this lock, insert the operating key and turn clockwise until the key stops. With the key turned, depress the retainer button on the outside of the L-handle (see Photograph 2). With the retainer button pushed in, pull on the L-handle and remove. If you do not have a key, you must pick the cylinder clockwise until it stops, then push in on the retainer button and pull the handle off. With the lever handle removed, you can remove the inside cylinder, being very careful not to drop the front inside cylinder ring (see Photograph 3).

Now you can remove the horseshoe clip and tail piece at the rear of the cylinder plug (see Photograph 4).

Rekey the cylinder just as you would any other cylinder.

To reassemble the lock, place the tail piece and the horseshoe clip back on the cylinder plug. Place the front cylinder ring in the handle and then install the cylinder in the handle. Now insert the lever handle on the spindle.

With the handle on the spindle, turn the key and depress the retainer button on the side. Push the handle in until it stops and the retainer button pops out and the procedure is complete.

Harlock was recently purchased by the Tesa Group which has introduced a number of design changes and new products to the Harlock line. With the support and backing of Tesa, there is sure to be many more changes and introductions in the future.

For more information on Harlock products call: 1-800-542-7562.

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# BUTT HINGE MORTISING

Installing a new door can be a nightmare, unless of course you have a mortising jig to make the worries go away.

by Ron & Chris Curry



1. The Stuckel Door & Jamb Mortising System.

**H**ave you ever had your best and favorite customer call and ask you to do a job you absolutely dread but can't say no to? We've all been in that spot a time or two! Just in case that request has been for a door replacement, keeping the frame intact, the Stuckel Door & Jamb Mortising System is the tool for you (see Photograph 1).

This system comes with templates for hinges, door latches, door strikes, and deadbolt strikes. The video instruction tape is so easy to follow, a child could do this. Well, maybe a large child.

Preparing a slab door for hinge installation by hand so it mates up to the existing hinge positions accurately, is the hardest part of installing a new door that is not prepped (see Photograph 2). If you don't measure exactly, the door won't swing correctly in the frame and there could be a whole host of other problems as well. The Stuckel system helps you do the job accurately and easily.

For butt hinge installation, you will need a tape measure, a pencil, a carpenter's square, a router with a 5/8" diameter solid guide bushing, a 1/2" diameter mortising bit, a power drill, a screwdriver, a chisel, a hammer and a few nails to do the job.

Start by measuring to the center of each hinge from the jamb header (see Photograph 3). Make sure existing jamb hinge section and header are square and level.

Using two nails, attach the door spacer shim supplied in the Stuckel kit to the new slab door (see Photograph 4). Next hook the tape measure to the shim and measure to the hinge center line (see Photograph 5). You will need to mark all three hinge center locations in the same manner.

Once you have marked the hinge locations, use your square to draw a pencil line across the edge of the door for each hinge (see Photograph 6).



2. Preparing a slab door for hinge installation by hand so it mates up to the existing hinge positions accurately, is the hardest part of installing a new door.



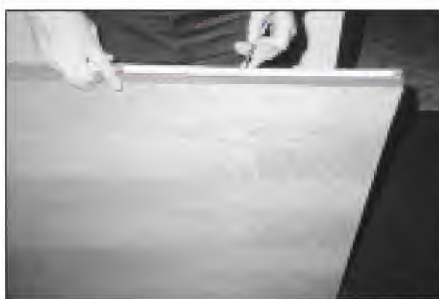
3. Start by measuring to the center of each hinge from the jamb header.







**4. Using two nails, attach the door spacer shim supplied in the Stuckel kit to the new slab door.**



**5. Hook the tape measure to the shim and measure to the hinge center line.**



**6. Use your square to draw a pencil line across the edge of the door for each hinge.**

**N**ext, select the template that matches the size of the hinge that is existing in the jamb and install it in the Door Template Holding Clamp (see Photograph 7). The clamp is what the router glides on to mortise the area. A clever positioning device that sets in clamp is used to center unit at each mark on door edge.



**7. Select the template that matches the size of the hinge that is existing in the jamb and install it in the Door Template Holding Clamp.**

With the Door Template Holding Clamp securely in position on the door, place your router on the suspension rails and adjust the height of the cutter until it comes in contact with the door wood surface (see Photograph 8). Remove router and adjust the cutter to the proper depth required for the lock plates or hinges you are using.

Place router on the Door Template Holding Clamp, but keep the cutting bit away from the wood door surface. Now, turn router on and plunge cut into the wood until the router base rests on the suspension rails of the Door Template Holding Clamp.

Slowly follow the template window with the router guide bushing. It is very important to avoid hitting the template window edges with any force while cutting, it may knock the Door Template Holding Clamp out of position. Although the Door Template Holding Clamp grips very well with finger tightening pressure, it is not nailed to the door. It takes only seconds to carefully mortise the hinge blocks, so to hurry and hit the edges with force will not save any time, only reduce your accuracy. Carefully travel around the template until all material is removed.

**Continued on page 45**



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**8. Place your router on the suspension rails and adjust the height of the cutter until it comes in contact with the door wood surface.**



**Continued from page 41**

Wait until the cutting bit stops rotating completely before removing the router base from the holding clamp suspension rails. Failure to follow this point will ultimately result in damage to the template and possibly your router cutting bit. One slight nick in the template will appear in your mortise every time you use it again. However, replacement templates are available.

Note: to achieve square hinge corners, use a corner chisel or a utility knife.

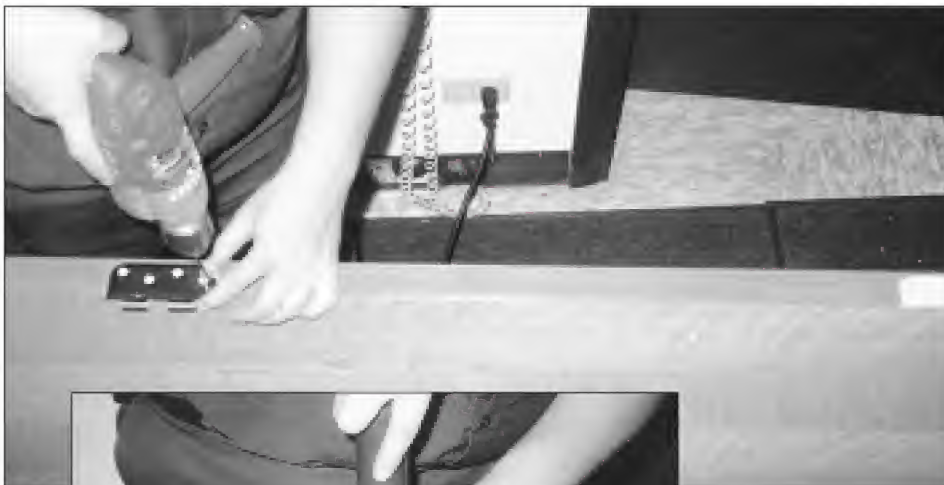
Set the hinges in each mortise and drill pilot holes to help prevent splitting the wood. Then use hinge screws to install (see Photograph 9).

Once all the hinges are installed, stand the door up and mate the hinges to the side located in the frame. Install the hinge pins and tap them gently into place (see Photograph 10).

Use the templates to do your edge and jamb preparation, then bore and install your lock hardware.

One final word of caution, when installing the door, be sure not to catch the customer's dog between the door and the jamb (see Photograph 11). This could make for a very messy ending.

For more information on the Stuckel Door & Jamb Mortising System, call: (708) 593-7220. **TNI**



**9. Set the hinges in each mortise and drill pilot holes to help prevent splitting the wood.**



**10. Once all the hinges are installed, stand the door up and mate the hinges to the side located in the frame.**



**11. When installing the door, be sure not to catch the customer's dog between the door and the jamb.**



# BUSINESS BRIEFS

## Security Lock Issues Condensed Catalog

Security Lock has just published a 16 page reference guide containing capsule information on each of the major lines the company inventories. Also included is data on many of the customer services



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**Kosakowski**  
Elected President,  
Hildebrand Director  
of Marketing

The Board of Directors of the DORMA Group, Reamstown, PA, has elected Paul Kosakowski, AHC, president of the DORMA Group. He will succeed Don Bixby, who announced his retirement effective October 31st, 1996. Kosakowski had been vice president of sales and marketing at The Dorma Group, a po-



sition he held since May, 1995. Steve Hildebrand, has been named director of marketing for The DORMA Group. Hildebrand will have complete responsibility for all aspects of the DORMA marketing program, including all technical service and marketing communications functions.

## Vindicator Announces Microlock 30 for ATM Safes

Vindicator announced their newest lock, the second in a family of intelligent electronic locks specifically designed for ATM safes. The new MicroLock 30 offers increased access control through dynamic combinations (which change after each use) and a detailed audit trail of all openings and closings. The MicroLock 30 is part of the Vindicator MicroLock(TM) family of combo-key safe locks (6-digit combination + electronic MicroKey(TM)). The Vindicator MicroLock 30 is a direct replacement for most mechanical combination locks.

## Monaco Lock Takes on New Line

Monaco Lock Company, Inc. is stocking Von Duprin electric strikes. These heavy duty strikes are of the superior quality that Monaco Lock demands from the lines it carries. Technical support is available to assist you in crossing over from other manufacturer's model numbers. These strikes are available in various voltages and finishes to suit most applications. Call 800-526-6094 for specific information.

## JLM Launches Web Page

JLM WHOLESALE is pleased to announce that it now has its own home page on the World Wide Web. The address is <http://www.JLMWholesale.com>. JLM welcomes everyone to log on and browse the home page for all the latest information about JLM Wholesale and products. JLM

WHOLESALE is a national distributor of door hardware products used in the aluminum storefront, architectural hardware, locksmith and security industries.

## Nel-Tech Keypads

Nel-Tech announces that it's line of keypads and access control products, including the weatherproof Stormpad, is now available through American Lock & Supply's electronic security division. American Access Supply can be reached directly at 800-559-9634.

## NT Dor-O-Matic Introduces Multi-Functional Swing Door Operator

NT Dor-O-Matic, a newly acquired Newman Tonks company, has introduced Sr-Swing Access Door Operator, a versatile swing door operator designed to open doors automatically for the disabled or as a manual operator for other traffic. Sr-Swing meets all ADA requirements without detracting from entrance design standards. As an ANSI low energy device, the Sr-Swing does not require safety carpets, guide rails or other safety devices. Sr-Swing meets all codes for opening pressures, time delays, and opening and closing speeds. For more information, please call NT Dor-O-Matic at 800-543-4635.

## Alarm Lock Appoints Sheppard New National Sales Manager

Alarm Lock Systems, Inc., a division of the NAPCO Security Group, is pleased to announce the appointment of George Sheppard to the post of National Sales Manager. Locally-based, George brings a great deal of sales experience



with him to Alarm Lock, having previously been national sales manager for companies in both the heavy equipment and computer industries. His responsibilities as National Sales Manager include the charge of all Alarm Lock's field representatives throughout the United States.

## Alarm Lock Names Bob Chartrand NY District Sales Manager

Alarm Lock Systems, Inc., recently named Robert Chartrand to the position of New York District Sales Manager. NYC-based Chartrand has extensive experience in the security industry, and joins Alarm Lock as a field representative working in the city as both a security systems technician and installer. His responsibilities as New York District Sales Manager will include increasing Alarm Lock's product sales, as well as the training of Alarm Lock sales representatives.



## MBA/mark bates Associates Has Relocated

MBA/mark bates ASSOCIATES is pleased to announce the relocation of their offices to a new location. The new facility includes a showroom and a classroom. The new address is: MBA, 101 Edgewood Plaza Drive, Nicholasville, KY 50356-1850. To order toll free call 1-888-622-5495. Phone: (606) 887-0496 and Fax: (606) 887-9491. Call the new toll free number to receive the new Catalog No. 3 1996-97. **TRIL**



# Aluminum Continuous Gear Hinges

by Peggy Quinn

**Specifying the correct hinge for the application.**

**C**ontinuous gear hinges are utilized as a hinging system for aluminum, wood and hollow metal door and frame applications for new construction and retrofit. This commercial architectural product is being specified for high-traffic exterior and interior entrances which require a heavy-duty hinge that will withstand the pressure of several thousand cycles a year, and sometimes several thousand cycles a day!

One of the most common complaints by an owner about an entrance is "Our doors are sagging." A sagging door is most commonly caused by a top butt hinge or pivot which has started to pull out from the frame. Overcoming past prejudice against "aluminum" hinges has been one challenge easily resolved by designing this product as a full-length door height support hinge.

Constructed of three interlocking, anodized extrusions of two geared leaves and a cover channel, a continuous gear hinge installs on the full length of the door and frame, uniformly distributing the opening force of the door. The vertical door loads are carried on a series of either plastic or steel bearings along the full length of the hinge. Continuous gear

hinges can be manufactured in standard duty, heavy duty, or extra-heavy duty versions. The heavy and extra-heavy duty versions have additional bearings and additional fasteners to support additional door weight, extra-wide doors, lead-lined doors, or a lighter weight door in a heavy-traffic entrance.

This full-length design seals the gap between door and frame, offering security, privacy, noise reduction, weather-proofing, and no-finger-pinching features. This type of hinge also eliminates the recurring problem of trying to prop the door open with objects jammed into the gap between the door and frame created by butt or pivot hinging systems, and the resulting damage to the door and hinging system when someone tries to close the door with the object still in place! The disbursement of opening force along the length of the door also greatly reduces the amount of stress on a door closer caused by possibly mis-aligned butt hinges or pivots which localize door weight and stress at the top of the door. Most importantly, this type of hinging system eliminates door sag.

Continuous gear hinges are installed on the surface of the door and frame, therefore, no cutouts or

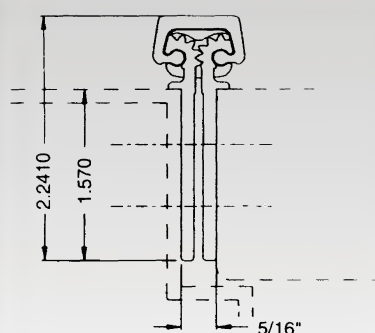
mortising are required on either the door or frame. Because of the growing usage of continuous hinges, many door manufacturers now manufacture new doors with a "prep for a continuous hinge" as opposed to a "custom" undersized door manufactured at additional expense. Also, because the design of this hinge supports the door along its entire length, no reinforcement is normally required behind the frame. And when the door is closed, certain profiles have no exposed screws, bolts, pins or knuckles to be vandalized.

Continuous gear hinges have three main applications: Concealed Mount, Full-Surface and Half-Surface

## CONCEALED MOUNT HINGES

This type of continuous gear hinge as seen is normally specified for new construction, where a new door must be undersized by 5/16" (each hinge leaf thickness 1/8" with 1/16" between the leaves of an installed hinge) on a square edge door to allow for the installation of the hinge leaves on the hinge edge of the door and the rabbet of the frame, plus whatever clearance is needed at the lock side. A bevel edge door requires 11/32" hinge clearance. This profile can also be used with a new door and existing frame.

The hinge cap on this profile requires 7/16" rotational clearance at the jamb side. The hinges all open to a full 180 degrees, and are designed for 1-3/4" doors. The profiles illustrated here also require a closer with a butt hinge pivot point; existing concealed floor or concealed overhead closers



**1. The concealed mount shown mounts the door and frame flush. Designed with two stops or flanges, the flanges are mounted up against the door and frame for a flush mount.**



with a fixed center pivot point must be replaced with a traditional overhead surface closer.

Continuous gear hinges are normally installed with either 10-24 or 12-24 undercut head, self-tapping hinge fasteners. Self-tap fasteners require drilling a hole, but the hole does not have to be tapped. Many companies also offer fasteners which self-tap and self-drill for ease of installation, eliminating the need to drill a hole first. However, self-drilling fasteners are not recommended for installation in mud or grout-filled frames because the drill point in all

probability will hit the concrete creating a "jacking effect," unless mortar is first removed with a masonry bit. If possible with contract work, some form of mortar guard should be specified behind slushed-in frames. Security fasteners and wood fasteners are also available for certain applications.

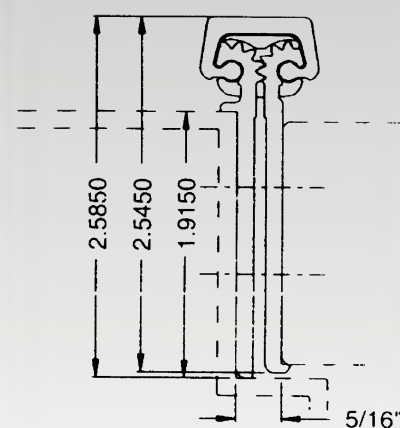
The concealed mount shown in Illustration 1, mounts the door and frame flush. Designed with two stops or flanges, the flanges are mounted up against the door and frame for a flush mount. As illustrated, the frame leaf is 1.57" long; the hinge leaf will cover

many existing hinge cutouts, although some may have up to 1/8" of the cutout exposed depending on the hinge backset. Also depending on the weight of the butt hinge which has been removed, up to 1/16" cutout may show on the face of the frame after installation of a continuous gear hinge. If applicable, filler plates may be installed once the butt hinge system is removed for a better appearance, and for anchoring the new continuous gear hinge at those locations. This profile is most commonly utilized on new aluminum entrances, although it may be utilized for both wood and hollow metal doors.

The concealed mount shown in Illustration 2, mounts the door and frame with 1/16" door inset. There is one stop on the frame leaf; and since the frame leaf is 1.915", this will provide complete coverage of existing hinge cutouts on the rabbet of frame. The door leaf is also longer, with a small door edge lip which wraps around the door. This profile is quite commonly used with hollow metal or wood doors, both because of the door inset, and the edge protection. Although door insets vary among different door and frame manufacturers, allowance must also be made for any door silencers/ buttons or gasketing which may be mounted on the frame stop when considering how much inset the hinge should provide.

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**2. The concealed mount shown mounts the door and frame with 1/16" door inset. There is one stop on the frame leaf; and since the frame leaf is 1.915", this will provide complete coverage of existing hinge cutouts on the rabbet of frame.**



## FULL-SURFACE HINGES

Full-surface hinges are utilized in retrofit situations and are installed on the face of an existing door and existing frame. They are installed with 10-24 or 12-24 hinge screws in the frame leaf, and fastened with sexbolts and 1/4-20 shoulder screws through existing doors. Full surface hinges are also usually designed with four locator holes per hinge to adjust the door to fit in the entrance plumb and square before installation of the door and frame fasteners. These retrofit profiles can be utilized on aluminum, wood and hollow metal doors and frames.

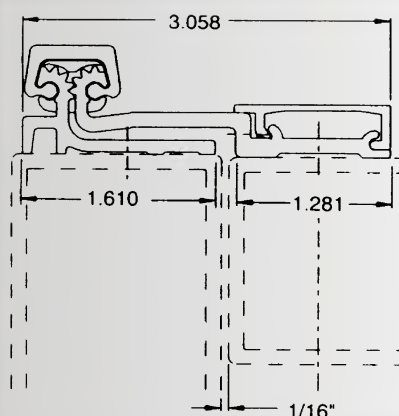
The full surface hinge shown in Illustration 3, is now being promoted for A.D.A. usage to gain additional clearance in an entrance, this retrofit hinge has a swing-clear pivot point. As the pivot point is altered from the normal butt hinge pivot point, this hinge would require re-templating of an existing closer to match the swing-clear pivot point; without readjustment of an existing closer, you would only gain 70 degrees opening in a 90 degree entrance.

This hinge also requires 1-3/4" on the face of the frame to install, and mounts the door and frame flush in the opening. A door inset can be achieved by placing a continuous piece of shim under the door leaf before installing the fasteners. Shim is normally supplied at either 1/16" or 1/8" thickness. When the door is closed with this profile installed, there is no access to the frame screws; if properly installed, only the sexbolt heads are accessible if the door leaf cover were removed.

The full surface hinge in Illustration 4, has a more generic application than Illustration 3. The pivot point matches the butt hinge pivot point, so an existing closer will not need re-templating. It mounts the door and frame with 1/16" door inset, and only requires a minimum of 7/8" clearance on the face of the frame to install. Additional door inset can be obtained by placing a continuous piece of shim under the door leaf before installing the fasteners. When the door is shut with this profile, the frame screws would be accessible if the frame leaf cover were removed; to help prohibit access to the building, security screws can be installed on the frame leaf.

## HALF-SURFACE HINGES

Half-surface hinges are utilized with an existing frame and new door, where the door must be undersized by 3/16" (frame leaf thickness 1/8" plus 1/16") to allow installation of the frame leaf on the rabbet of the frame; plus clearance at the lock side. The frame leaf is installed with 10-24 or 12-24 hinge screws, and the door leaf is thru-bolted with sexbolts and 1/4-20 shoulder screws. This hinge is often



3. The full surface hinge is now being promoted for A.D.A. usage to gain additional clearance in an entrance. This retrofit hinge has a swing-clear pivot point, as the pivot point is altered from the normal butt hinge pivot point.

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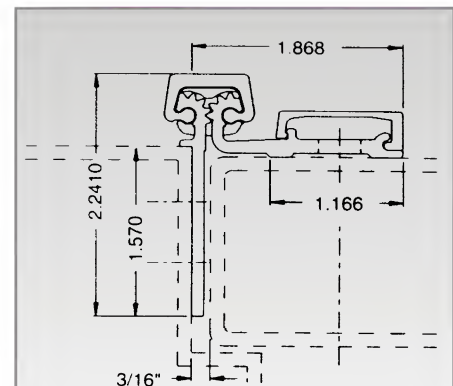


utilized with wood doors where the hinge edge of the door may be weakened, but the door itself is still serviceable.

The frame leaf of the half surface hinge in Illustration 5, is 1.57" on an

existing frame, the same hinge cutout coverage would apply as explained in Illustration 1. This hinge may also be used to retrofit an existing door and frame if there is enough existing clearance to allow for installation of the frame leaf on the rabbet of the frame; this allows you to retrofit where the face of the frame does not have the 7/8" clearance required for the hinge in Illustration 4. This profile mounts with 3/32" door inset; additional inset can be obtained by the use of continuous shims under the door leaf.

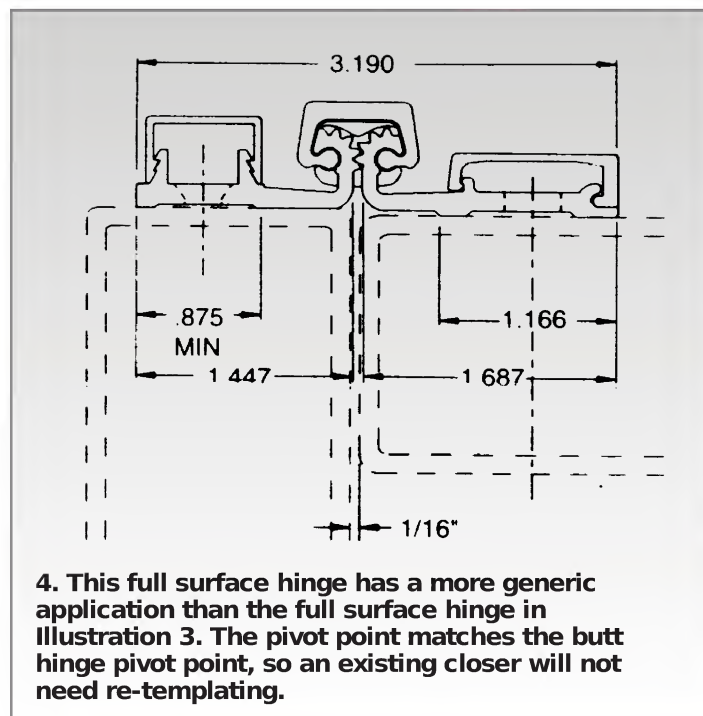
The hinge shown in Illustration 6, is identical to Illustration 5, except that the frame leaf is 1.915". The longer frame leaf provides



**5. This hinge may be used to retrofit an existing door and frame if there is enough existing clearance to allow for installation of the frame leaf on the rabbet of the frame.**

complete coverage of existing hinge cutouts on the rabbet of the frame. This profile mounts with 3/32" door inset; additional inset can be obtained by the use of a continuous shim under the door leaf.

Like any product line, since the concept was first introduced over 20 years ago, many design improvements have occurred: Templated hole



**4. This full surface hinge has a more generic application than the full surface hinge in Illustration 3. The pivot point matches the butt hinge pivot point, so an existing closer will not need re-templating.**

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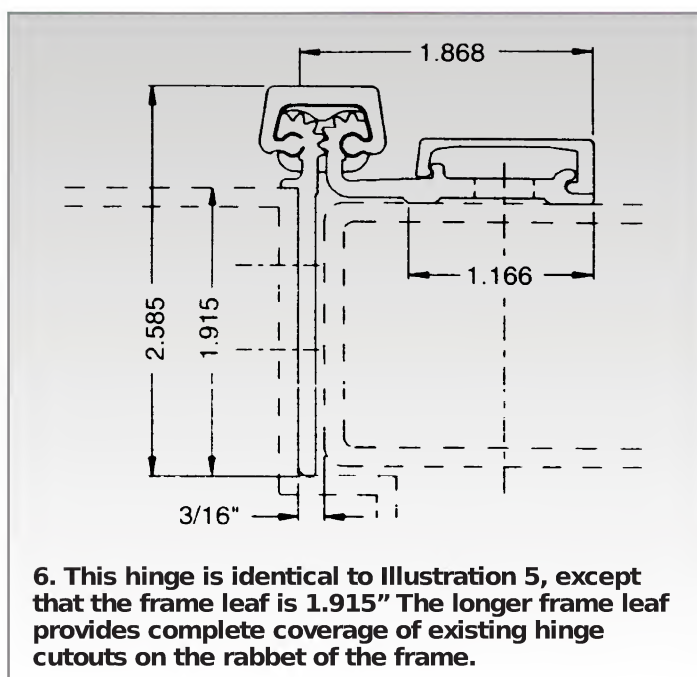
patterns, lubricated bearings, permanent lubricants on the geared areas which require no maintenance, greatly extended wear life, non-handed product, 410 stainless steel fasteners, security features, electrical modifications, and decorative caps.

Continuous gear hinges also offer greatly expanded fire ratings from 20 minutes up to 3 hours. Doors and frames prepped for rated continuous hinges should have the fire labels installed on the header of the frame and top rail of the door. Usage of pins or studs with the 3-hour ratings also allows full and half surface hinges to be rated for retrofitting existing rated doors and frames. Although not currently listed in N.F.P.A. 80, it will only be a matter of time before continuous gear hinges receive full recognition within the industry as a rated, fully functional hinging system. A committee has been formed at the B.H.M.A. level to establish a cycle test standard for continuous hinges for submission to A.N.S.I.

Continuous gear hinges are manufactured in standard industry lengths of 79", 83", 85", 95" and 119" for nominal door heights. Mounted

flush with the top of the door and allowing 1/8" header clearance, standard length hinges allow for 7/8" clearance at the bottom for threshold or gasketing. They can be cut in the field or the factory to any custom length if additional clearance is needed, or to exact door height. Although usually furnished in anodized finishes of clear and dark bronze, continuous gear hinges can also be custom anodized or custom painted in a variety of colors to match other hardware finishes.

Schools, hospitals, storefronts, restaurants, airports, wastewater treatment plants are just a few of the commercial and industrial facilities



who are specifying aluminum continuous gear hinges because they greatly extend the life of the entrance. A continuous gear hinge can easily last 10 to 15 years in an entrance and tolerate a great deal of abuse and heavy traffic, with little or no maintenance required. **TNL**

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# Reed Report

**J**ust returned from the Detroit seminar and it was just about as perfect as perfect could be. My thanks go out to John Hubel and Fran Katz. Very seldom do we go in and everything is exactly as ordered, however, everything was EXACTLY as ordered. Not only did they take care of all the arrangements for the class facilities, but they fed the more than 100 locksmiths that attended. The Locksmith Security Association of Michigan is truly one of the leading associations in our country. They are devoted to education and back it up with results. I am going to use questions I received at this show for my column this month.

Q. Are authorization forms necessary to use to avoid a law suit?

A. They are good to use, but not legal. In some cases the judge has ruled "There's no such thing as an authorization form to commit a crime." However, they immediately come back with "Keep using them because it shows you are honest and attempting to do the right thing."

Q. I recently split a door while installing a lock. Will my bond cover this?

A. No. What you need is called liability insurance. The bond is used only if you commit a crime and go to jail. At that time the bond will pay any losses up to the bond amount incurred by the victim. This is, without a doubt, the most misunderstood thing in our business. Two more are "insured," are you sure you are? and "certified," certified by whom?

Q. What is a core key?

A. The key used to remove the core from an interchangeable core lock.

Q. What are resistor pellets?

A. All VATS keys are fitted with resistor pellets. They are embedded in the key above the shoulder. There are 15 different pellets that have been designed for the VATS (vehicle anti-theft system). Each of the different pellets has a different resistor value. When the key is cut correctly and inserted into the lock and turned, the pellet makes contact with two electrical contacts in the plug. Ain't life grand!



Yours For Better Security,

*Bill Reed*

Bill Reed

## Scatter Shooting while wondering whatever happened to ... Larry McCall

Q. I want to study the fire code in my community, but I don't know where to get them. Can you help?

A. You can usually purchase the fire codes from the National Fire Protection Association or you might be able to get them from your local city/state governments. I strongly recommend you get a set and study them closely. When you get a job and are familiar with the codes, it's very impressive to your customer, not to mention you'll know what's legal and illegal.

Q. What does A.S.I.S. stand for?

A. American Society for Industrial Security.

Q. What are the two largest electronic locks being used by hotels?

A. This is no more than a guess, but I would say VingCard and Saflok. However, keep an eye on Ilco. They are coming on very strong.

Q. What have you found to be the biggest problems with cutting keys by code?

A. Probably number one would be mis-read code numbers. Others would be combination changes, number stamped wrong defective lock, wrong blank and wrong spacings and depths. Of course, there is always one more problem, but I know none of us would make it....that is locksmith fault. **TNI**

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# Specialty Locks

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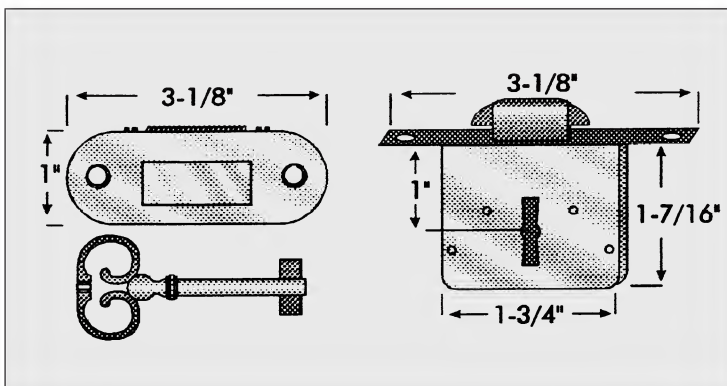
## Furniture and Cabinet Locks

One of your best customers has designed a custom cabinet and wants to locate a European-style mortise lock with an old-fashioned bit key. You check the catalogs of your nearest and dearest suppliers and find...almost nothing. What to do?

DiMark International is your source for these hard-to-find locks. They have almost thirty different models in stock, many models being available in several backsets. Some are handed right or left and many are reversible, making them suitable for horizontal as well as RH and LH vertical installations. Different styles include chest locks, roll-top desk locks, full and half mortise locks and hook bolts (see Illustration 1). The

locks are good quality, most with steel components and brass plated faces. Many are available keyed alike and keyed different; one utility key is included with each lock.

If your customer wants a fancier key, blanks are stocked in a range of bow shapes and in five finishes including antique copper, antique brass, bright brass, nickel and black. If you're looking for a machine



1. The perfect replacement for most roll-top desk locks. No modifications are normally required for installation.



2. A Zeiss Ikon rim-mount lock approximately 1-3/8\"/>



to cut these keys, the Steel King available exclusively from DiMark International, will do these and a whole lot more.

To finish off the installation, your customer has the choice of a filigreed brass-plated escutcheon for doors or drawers or two sizes of antique-style keyholes. Brass-plated strikes are available in four styles, though many of the locks come with special-purpose strikes.

#### Imported Display Case Locks

You may be getting inquiries about replacing a small European lock block which is installed on showcases with glass or wood sliding doors, often on jewelry cases. Several overseas companies are exporting these cabinets to the United States. The plug has only three or four very small pins and there is no easy way to rekey them. The plug projects through the hole of the wood or glass fitting and blocks the doors from sliding past each other. The key usually has a radius on the bottom side and can be challenging to cut without a special gripping device.

Instead of abandoning the original fitting and installing a totally different lock, you can order these locks with two keys each from DiMark. They are available keyed alike in small and large sets or you can buy them keyed different. The price is surprisingly reasonable for the complete lock and even less if you only need the plug with two keys. Although the original locks are made by several lock companies, the replacements from DiMark substitute for most. Order number BUR-SE 17 for plug and glass fitting, number BUR-SD 72 for plug with wood fitting and number BUR-SEP 1 for the plug with two keys.

#### Sliding Pocket & Patio Doors

The "Three Musketeers" from Ikon of Germany are also available from DiMark International. The first is the ZSS-SL143 which is a rim-mount lock approximately 1-3/8" x 3" and which locks from either side (see Illustration 2). This lock is frequently installed on sliding patio doors when the customer wants to use it from both inside and outside. It is most frequently mounted at the top of the inside door frame with a single hole drilled to the

outside for access. It is small and unobtrusive and, more important, very simple to install.

The second problem solver is the ZSS-MO360, a full mortise hook-bolt lock with a total backset less than 1-1/4". It, too, has double-sided access and is perfect for pocket doors, providing an extra range of security with its three sided cross-cut key. This lock is also frequently installed on sliding patio doors. Its locating pin prevents the sliding door from being lifted out of the track (see Illustration 3).

The third lock that DiMark imports from Zeiss Ikon of Germany is the ZSS-ML211, a thin full-mortise deadbolt lock with two bolts. It can be installed in doors as thin as 1-1/4" and like the other two Ikon locks, has the same style cross-cut key with three pin chambers in the lock. It is a good choice for recreational vehicle doors and other ultra-thin swinging doors.

Although most locksmiths might prefer not to rekey the Ikon locks, there is a pin kit available from DiMark and, yes, it can be done. If your key machine vises have slots across them, the keys are simple to



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cut, but it's a pretty safe bet that the local hardware store will be mystified by the cross-cut design.

#### Special Key Blanks

If you're looking for bit and barrel keys for antique and European style

locks, DiMark International is an excellent source. Their long-term relationship with Borkey, the makers of key machines in Germany, offers them access to many hard-to-find blanks. The range includes single and double bit keys, with both solid and drilled posts. DiMark keeps a range of these keys in their inventory in Santa Maria, and, when necessary, they will special order from the broader range that Borkey keeps in stock in Germany.

DiMark International can be reached toll-free at 800-235-2435 and their fax is available 24 hours a day at 805-928-8034. When you're befuddled about where to turn for special auxiliary locks, fax them a reasonably legible line drawing with notations about critical measurements and functions (they request that customers do not send a photocopied "picture" by placing the lock on a copy machine). Be sure to include your phone and fax numbers and whether the fax is a dedicated line. They will respond by recommending the lock that most closely meets your requirements. **TL**



3. A full mortise hook-bolt lock by Zeiss Ikon with a total backset less than 1-1/4" has double-sided access and is perfect for pocket doors.

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# Car Opening TOOLS



## HPC's Ultimate Killer Kit

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## The Modern Z-Tool System Way

Slide Lock Tool Company Inc. is the oldest name in the modern auto lockout industry. The annually updated Z-Tool manual is designed for minimal reading of instructions using professional step by step art. All accessories are included along with the nine very thin, very hard stainless steel tools. Enjoy the hassle free results built into every fully researched Z-Tool System kit. All items available separately.



## High Tech Tools

High Tech Tools offers its all new MODEL 2400 car opening sets — ultra precision designed — enabling the security professional to enter virtually any auto or truck including the new 96s! 28 tools, a 4 volume 1700 page encyclopedia, a 1996 troubleshooting car opening video seminar, a set of High Tech SuperWedges and a unique Remote Access System designed to enter vehicles which might defy entry by standard methods, plus a brand new durable hard carrying case all combine to place High Tech Tools on the cutting edge of auto opening technology!

## Tech-Train Carries R&D Products

Tech-Train Productions is proud to announce that they are now the exclusive distributor for R&D Products. The R&D pick sets allow the owner to pick and decode General Motors six-cut and ten-cut side-bar locks plus Ford ten-cut ignition locks. No disassembly of the lock is required! Each pick set is shipped complete with a carrying case and video instruction manual. Tech-Train Productions also stocks the full line of parts and accessories for all R&D pick sets. For more information on a free catalog call: (800) 356-0136.







GRRRRRRR...

RRRR....



# PITBULLS ON CRACK

## and the customers who love them

by Tony Blass

**Note: No animals were killed or injured during the events described herein.  
One human was injured, several times. Final Score: Animals 4, Human 0.**

A lot of people have a lowbrow image of locksmiths and think that the only thing they do in their spare time is sit around and complain about the customers. Well, I'm here to tell you that, as a well-rounded person, I like to partake in a variety of leisure time interests. Occasionally, if the bowling alley is being fumigated and Wrestlemania is over for the evening, I enjoy picking up a good book, placing it on my desk, putting my feet up on it, sitting back, and complaining about the customer's pets.

A few of the problems that customer's pets can cause for the mobile locksmith are mild irritation, major aggravation, and difficult-to-treat medical problems such as death.

For some reason, however, most customers think that their pets are the greatest thing since apple pie, and are willing to look past any misbehavior their animals engage in. I grudgingly give many of these animals a great deal of credit for figuring out a way NOT to be rejected by their own mothers.

The classic example, as every locksmith knows, is the little yapper dog. Personally, I think that any dog that measures less than 6 inches at the shoulder should be classified as a rodent, and its use should be strictly limited to medical research. These dogs serve no apparent purpose, except to provide a rapid transit system for fleas and to yap incessantly

at working locksmiths, until their vocal cords cramp up or a large tool box is accidentally dropped on them.

Of course, the owner doesn't have a clue as to how to control the dog. Sure, they'll say something like "Quiet down Poopsie" with all the firmness and conviction of O.J. Simpson saying, "I'm going to find the real killers if I have to search every golf course in the country." The owner's command so impresses "Poopsie" that she promptly raises the barking volume and attacks your shoe. Personally, I have a number of ideas on how to quiet Poopsie down, some involving vice grips and super glue, and others include a swift foot movement in a modified version of the point-after-touchdown.

Mind you, I'm fairly tolerant of a wide range of animal behavior. The leg-lovers are sort of amusing. It's nice to know someone finds you attractive, although they never call you in the morning. Cats I don't really mind. In fact I sort of like them (they taste a lot like chicken). Goldfish are O.K., I don't have a bad word to say about goldfish, even though my uncle was killed by one. Just kidding. Actually Uncle Bill was involved in a successful but fatal attempt to disprove the theory that there's ALWAYS room for Jell-O.

Now let's talk about the bad boys. You know, the dogs that show a real aptitude for the automotive

dismantling security business. These dogs must have been honor students at the Jeffrey Dahmer School of Dog Obedience. I was talking to a customer once, and suddenly I felt a set of very sharp teeth sink quite deeply into my buttock. Through the pain induced haze, I could hear the customer say to me, "Oh, don't pay any attention to my Doberman, he just likes to play." I felt like stamping hard on top of his foot and saying, "Oh don't pay any attention to me, I just like to square dance."

Another time I was approaching a customer's house, when I was attacked by a huge Rottweiler. This dog was very nasty and came at me like I was just a large piece of raw meat. I finally fended him off using the old tool-box uppercut. As I was counting my extremities from the roof of my van (fortunately all were still intact), the customer approaches and says, "Gee, he's never done that before!"

I said "He's never done WHAT before? Missed the jugular vein!"

Another customer had a rabid German Shepherd that chased me half a block until I jumped over a five foot high hedge and landed on



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my head. The customer approached and said with glee, "He makes a great guard dog doesn't he?"

"It's hard to say right off, let me check with my lawyer on that one," I responded. "In the meantime, could you pop my right shoulder back in the socket for me?"

My wife was once attacked and bitten by two Rottweilers in our neighborhood. We got a tidy settlement from the insurance company on that one. However, ever since then, she questions my devotion to her simply because I try to rub raw steaks on her arms before she goes on her morning walks.

My wife is a real animal nut. The big love of her life was not among her several dozen ex-boyfriends, but her beloved lost dog Pasha. To this day, whenever she sees a German Shepherd she screams, "Stop the car, it's my Pasha." The fact that she lost the dog in junior high school, and that it would be 221 dog years old by now, doesn't seem to matter.

She once went postal on me when she saw a dog locked in a car. "The dog is going to heat up and suffocate," she yelled. I tried to point out that it

was raining that day and one of the windows was open, but that didn't slow her down. She was going to find the dog's owner and Kibble him right in the Bits. "Did we forget to bring you up to date on your rabies shots again dear?" I inquired.

We like to kid each other. Only rarely does it escalate to the use of small firearms. Like the time I introduced her as my passenger side airbag, but let's not get into that.

One of the most unusual animal situations I have encountered, occurred when I approached a customer's house and was not able to get a response after ringing and knocking on the front door. I started to walk back to my van, but I had a feeling someone was there, so I yelled out, "Hello, anyone home?"

"Hello, how are ya?" responded a female voice from inside the house. She sounded a little drunk.

I walked back to the front door and waited for her to open it, but nothing happened, so I yelled out, "It's the locksmith".

"Hello" she yelled back.



"I think we've covered that part. Can we move on to the part where you open the door and tell me what's wrong with your lock," I said.

Still no door movement.

"I'm leaving now" I said. "I've got more important things to do than wait around" (like taking a nap in my van).

On the way back to the van I glance into the kitchen window and see a parrot staring out at me.

"Hello, how are ya?" she says.

"Just great," I mumbled. "Polly want a firecracker?"

When I got back to the van I discovered that I was at the wrong address.

One of the funniest customer pets I've seen was a hamster in his traveling ball. The customer had this hamster inside a clear bubble the size of a soccer ball. The hamster was having tremendous fun walking up the side of the ball and causing it to cruise around the living room. He was doing real well until he reached the stairs leading to the basement. I'll bet he doesn't make that mistake again. **TNL**



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# Auto Opening Opening The



**E**ach year, for one reason or another, auto manufacturers experience delays in releasing some new model year cars and trucks. Occasionally, the manufacturer will label it's mid-year releases under the following model year. This is precisely what Ford Motor Company has done, debuting the 1997 Ford F150 well before the traditional model year release time. This month we will cover how to open the all-new Ford F150.

The Ford F-150 was completely redesigned for its 1997 release. While the F150 has been one of the nation's top selling trucks for years, Ford made some major changes in hopes of pulling in some record sales for this sturdy work-horse. Sales have already been better than expected, which means these beauties have been popping up all over the country with keys locked inside - that's more business for us locksmiths.

While there are several good car opening sets on the market, we will use the High Tech Tools Model 2400 Car Opening Set to execute these openings. The High Tech

Tools set provides clear and concise opening instructions - from high quality, revealing photographs to computer rendered drawings and easy to follow step-by-step instructions.

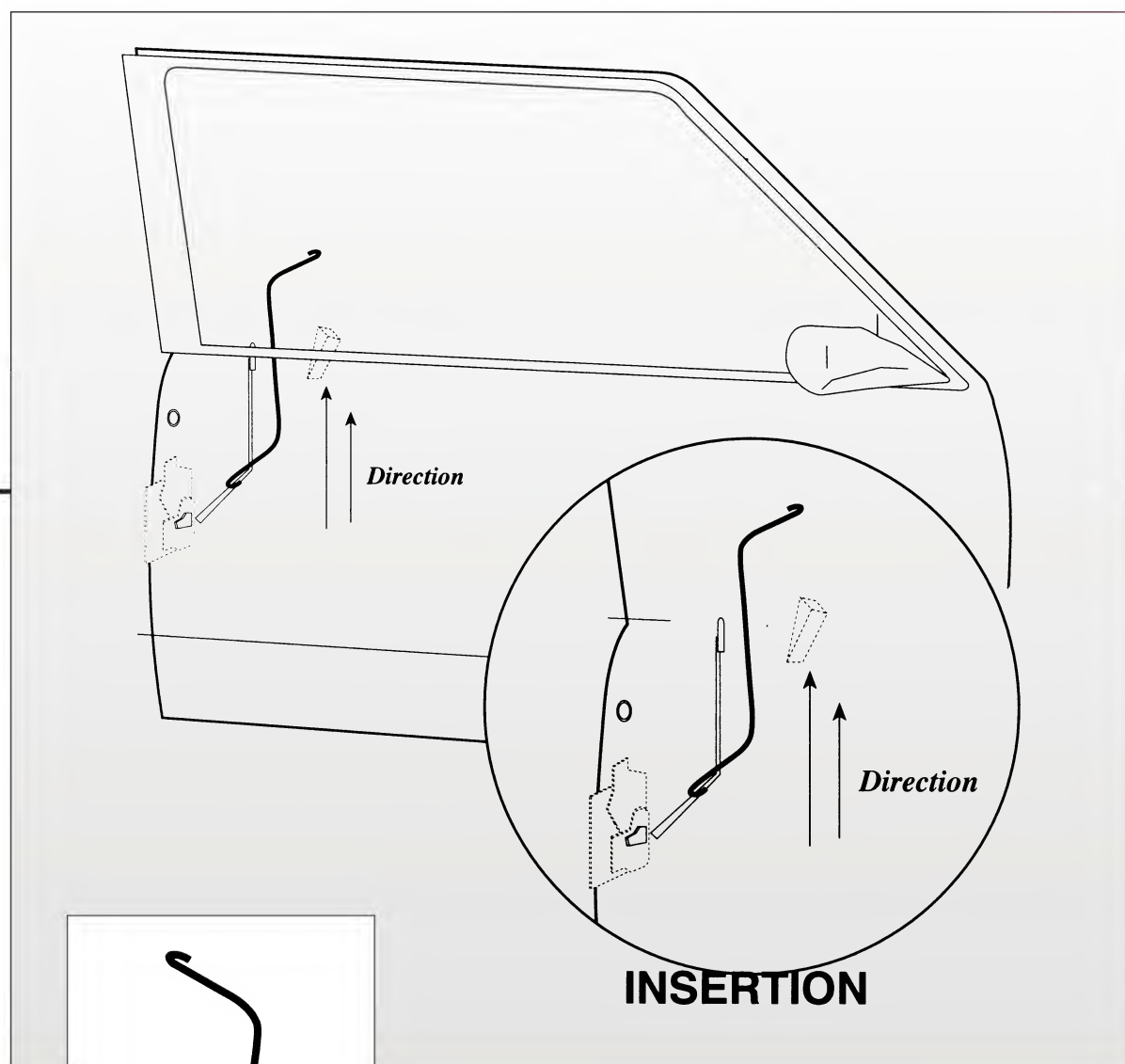
## FORD F150

The Ford F150 uses a standard vertical lock button. Although the linkage is unshielded, it can be somewhat difficult to access with conventional tools, such as a Slim-Jim. That's why we'll be using the High Tech Tools 1847nc, the "S" tool, on the passenger side door. The curved design and end hook make the "S" tool a versatile and effective tool in many cars and trucks, including the F150.

Begin by inserting the StripSaver into the weather strip just a few inches inside of the door handle. The Strip Saver is a simple plastic tool, inserted before the wedge, designed to protect the weather strip from any damage which may be caused by a wedge. It is recommended that you use the StripSaver prior to performing any car opening procedure. Next, insert the wedge in between the window and the



# 1997 Ford F150



StripSaver to create an opening of sufficient size for the tool. Then, carefully insert the "S" tool with the open end of the hook facing the rear of the vehicle.

Lower the tool about half-way down the door and twist the tool slightly to hook the door lock rod (as shown in the diagram). When you contact the rod, you will see the door lock knob move. Then, simply lift the tool to unlock. **TRL**



# DON'T DRILL THAT LOCK

*By Donald Shiles*

The advent of the Mas-Hamilton X-07 lock, combined with the "new" Red Label security containers has caused some serious problems for the safe technician who works on GSA containers for the government. There are several problems involved in this situation. To begin with, let's review the way we use to penetrate and open earlier GSA containers with S&G or Mosler locks on them.

With the black label containers and the relatively inexpensive formerly UL approved GP1/IR locks, it was simple to drill the lock, using your favorite technique. You could then open the container, replace the lock and repair the container. By so doing you could restore the entire container to service at a reasonable cost.

With the X-07 lock there are a couple of problems; it requires finesse and it is expensive. While it is true the lock can be drilled fairly easily, it is expensive to repair if you do everything right. When you add to that the cost of replacing the drawer front, you are well into triple digits. With the "Black Label" containers, you could plug the hole, weld it front and back, putty, sand and paint the repaired area and restore the container to "like new" condition. With the "Red Label" containers, the drawer front must be replaced.

The recommended alternative which came out of Port Hueneme, CA consisted of using a 3-5/8" diameter hole saw to cut two holes in the front of the drawer (see Photograph 1). This allowed you to gain access to the locking bars. You then used a reciprocating saw such as the Saws-All

## Alternative opening procedures on a Red Label Class 5 GSA container.



**1. The recommended opening procedure consists of using a 3-5/8" diameter hole saw to cut two holes in the front of the drawer.**



**2. With the 3/4" segment removed from each bar, there was a gap wide enough to allow you to retract the locking bars and open the container.**

with carbide tip, or diamond tip blades to make two diagonal cuts in each locking bar, 3/4" apart.

With the 3/4" segment removed from each bar, there was a gap wide enough to allow you to retract the locking bars and open the container (see Photograph 2). You are then able to salvage the X-07 lock (which costs more than the drawer front) and replace the drawer front, thus putting the container back into service. I used the carbide tip saw blade for the demo shown. It only took a few minutes to cut the two access holes (I used a Hamilton Class 6, black label container drawer for the demos). However, when it came to cutting the locking bars it was a different matter.

To begin with, there is not much room for a reciprocating saw to work inside the drawer with the container locked. The "cookie sheet" gets in the way. I solved that problem by drilling a 1/2"

hole through the cookie sheet to allow access for the tip of the saw blade. Once that was done, I was able to make headway sawing the bar and the cookie sheet at the same time. It took about 20 minutes per cut to make an angled cut through each locking bar; an hour and a half for the four cuts. I am sure diamond tip blades would make short work of this, unfortunately, I don't have any.

I did experiment and





**3. I butchered the front of the drawer, but since it is unrepairable anyway, who cares.**

try to cut on a radical angle, hoping the one side of the bar would slide over the other; theoretically it sounded good, but in practice I could not make it work. Using this technique you lose the drawer front and the locking bars, but you salvage, not only the lock but also the drawer handle and connecting linkage (\$40 to \$50 in repair parts which can be used on another container).

The problem with this technique, other than the time it takes, is that it will not work on the Red Label Class 5 containers because of the hard plate reinforcement protecting the front of the drawer and the locking bars. If you have any experience on one of these containers, I would like to hear about it. I have not yet run into one of the Class 5's which was locked out and needed to be opened. As I said earlier, this is the recommended method, it works but it is slow and requires a lot of equipment.

I discovered another method which works just as well, has all of the same advantages plus it is quick (about 30 minutes or less) and requires no special equipment.

As you can see in Photograph 3, I butchered the front of the drawer, but since it is unrepairable anyway, who cares. We simply took a grinder and a cut-off wheel to cut four square/rectangular shaped holes in the front of the drawer. As you can see I experimented with different size holes, the larger hole on the right was done first and then I made the slightly smaller one on the left; both worked.

The only measurements that are important are, first, you must be at least 2 inches from the outside edge to clear the wall of the container. Otherwise, you would damage the wall and destroy the container entirely. The other important measurement is that the vertical cut



**4. cut the locking bars immediately adjacent to the linkage collar.**

must be high enough (7" in our case) to allow your cut-off wheel to protrude far enough into the cavity of the drawer to reach the locking bars. You then cut the locking bars immediately adjacent to the linkage collar (see Photograph 4) and gain somewhere closer to the lock box; the actual width of the cuts are not important as long as they are about 3/4" apart or more. It took us approximately 10 minutes per side. The results are not pretty, but the lock is salvaged, as is the handle and connecting linkage; in other words all of the advantages of the above

procedure with the added advantage of speed and less expensive tools; i.e., no diamond tipped saw blades.

**R**emember, no one knows more about your situation than you do. Recommended procedures are just that, recommended. Don't be afraid to experiment, find ways to use the tools you have and when you find something that works, share it with others. We are all in this together. If you have information or questions, I can be reached at email: donshiles@aol.com or FAX me at 410-674-3912. **IRL**



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# The WALTER Side

## On the Side



by  
**Sara  
Probasco**

I don't know what possessed me to go with Don to Eagle Pass that day. He had agreed to install a couple of deadbolts on a business down there, but he didn't really need my help. Besides, I usually stayed home to field calls in his absence. Nevertheless, there I was at the Texas/Mexican border, sitting in the so-called shade of a scrappy mesquite tree while Don performed his magic, and all on the promise of lunch in Old Mexico.

Once Don finished, we drove across the Rio Grande bridge into Piedras Negras, Mexico. A friend had told Don about a man who was practicing locksmithing there. Don wanted to see for himself exactly what the man was doing, so he'd know whether it was safe to recommend him to customers who lived in the Eagle Pass area.

We had been getting quite a lot of customer calls from the Eagle Pass area. Since it was around sixty miles from Uvalde, we knew our time and travel charges were eating them alive. Don thought being able to refer potential customers to someone in their own area who could perform basic locksmithing work would save them money and still secure happy customers for us to do the more involved jobs for them.

I neither speak nor understand any version of the Spanish language. However, Don speaks Tex/Mex Spanish and can communicate well enough to get along in border areas of Mexico without difficulty, so we drove around town, looking for signs and asking around for a

locksmith. We were unable to find one anywhere. Finally, we decided to stop for a bite of lunch.

Don spotted a cafe, so he pulled over and parked. Immediately, a swarm of young boys descended upon us from out of nowhere, each begging loudly, "Wash you car-o? Wash you car-o?"

I waved them away with a frown and a shaking of my head.

Don fished in his pocket and handed the toughest looking one some change. Exchanging a few words with the boy in Spanish, he then steered me to the door of the cafe.

"What was that all about?" I asked. "We don't need it washed. I did that just a few days ago."

Don laughed. "They weren't offering to wash our vehicle. They wanted to watch it for us. You know, to keep somebody from slashing the tires, stealing the hub-caps, things like that."

My mouth dropped open. "You're kidding," I said.

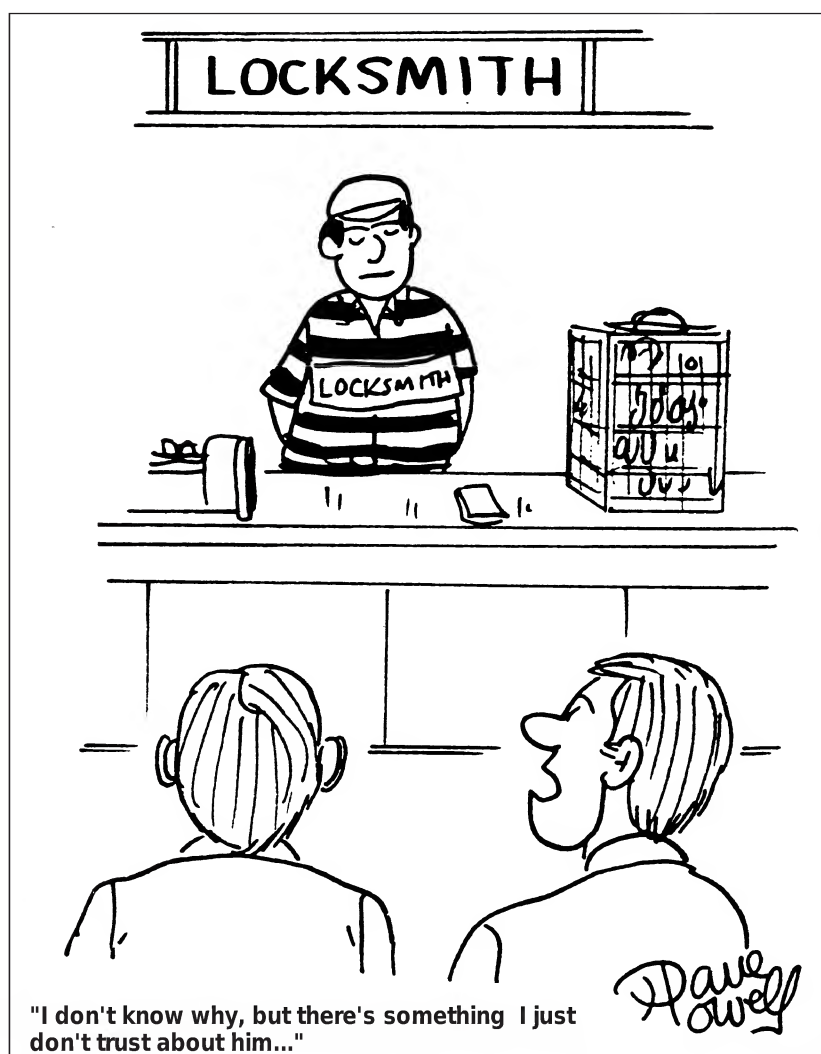
"Nope."

"Well, what makes you think that little kid can prevent something like that from happening? After all, he was badly outnumbered. Besides, what's to keep him from pocketing your change and running off?"

"I gave him a couple dollars and told him I'd give him that much more when we got back, if he was still there and everything was okay," Don replied.

As Don pushed open the cafe door for me to enter, he paused to notice good, sturdy locks on the door. I glanced back to see the boy he had hired proudly sitting cross-legged on the hood of our vehicle, counting his money. The others had run off in pursuit of business elsewhere.

As we entered the little cafe, I should have known we were in trouble when the woman who greeted us handed each of us a fly swatter, instead of a menu. In Tex/Mex, Don inquired about the fare. The woman pointed to a menu chalked on the wall in Spanish. Don ordered something for





us, and we sat back to wait and wait. Swat and wait. Swat and wait. After about twenty minutes of this, it dawned on us we hadn't seen a living soul since we ordered.

We walked to the kitchen door and peeked inside. Nothing was cooking, and there was no one in sight. A door on the other side of the kitchen, leading to the outside, stood ajar. Beyond, we could hear sounds like someone hammering on metal.

"Why don't you go back to the table, and I'll see what's going on," Don suggested.

Several minutes passed before Don joined me at the table. He had glasses of iced tea in his hands and a twinkle in his eyes.

"What's going on? Where's our lunch?" I asked.

"It'll be a minute," he answered. "Seems we've found Ernesto, the local locksmith. He also owns this place, he's the cook, and he runs a little service station out back. At the moment, he's in the process of changing a man's tire and repairing a flat, but he said he'd cook our food just as soon as he gets through."

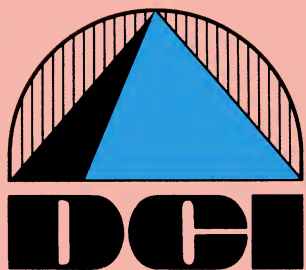
About that time, Ernesto came into the cafe. His clothes were dirty, and he was wiping grimy hands on a shop rag. Grinning from ear to ear, he nodded to me and spoke a few words to Don in Spanish. Then he went into the restroom and soon emerged spanking clean in a white chef's apron, whereupon he entered the kitchen and prepared our lunch.

In short order, he set plates of steaming food before us. Then he pulled a chair up to our table and conversed with Don non-stop about locksmithing while we wolfed down

some of the finest enchiladas verde and chili rellenos I have ever tasted.

"I can see how being a locksmithing and running a service station might go together," I said to Don during the drive back home, "but operating a restaurant on the side seems to stretch credibility a bit."

"Oh, I don't know," Don said. "You know how a lot of locksmiths look for a little sideline business to take up the slack. Besides," he added, glancing at me with that twinkle in his eye again, "where but at Ernesto's can you get great food with bumper-to-bumper service in a secure atmosphere?" **TNL**



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# TECHNITIPS

## Helpful hints from fellow locksmiths

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tips and win.

### HOW TO ENTER

Simply send in your tip about how to do any aspect of locksmithing. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Write your tip down and send it to: Jake Jakubowski, Technitips Editor, **The National Locksmith**, 1533 Burgundy Parkway, Streamwood, IL 60107 or send your tips via E-mail to the E-mail address posted in the upper right hand corner of this page. So get busy and send in your tips today. You may win cash or merchandise. At the end of the year, we choose winners for many major prizes. Wouldn't you like to be a prizewinner in 1996? Enter today! It's easier than you think.

### BEST TIP OF THE MONTH

If your tip is chosen as the best tip of the month, not only do you win the All-Lock A-6200 Auto Service Kit, but you also automatically qualify to win one of the many excellent year end prizes!

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Yes, every tip published wins a prize. If your tip is printed, you'll win \$25 in Locksmith Bucks. You can use these bucks to purchase any books or merchandise from The National Locksmith. Plus, be ready for Jake's Grab Bag prizes! Remember, everyone wins. (Please remember to include your complete mailing address - we cannot mail prizes to P.O. Boxes.)



by  
Jake Jakubowski

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- All-Lock A-6200 Auto Service Kit
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- Pro-Lok PK15 Professional Lock Pick Set
- Tech-Train Training Video
- Sieveking Products EZ-Pull GM Wheel Puller
- Major Mfg. Products
- The Sieveking Auto Key Guide

Here I am, coming close to the end of my third year as the editor of the Technitips column. An understatement would be to say: "It's been interesting." In reality, it has been challenging, demanding and ... a whole lot of fun, even during those times when I was facing a deadline and was just a tad bit short of material. But, you my tipsters, always came through for me and allowed me to make each month's column informative and timely. For that I thank each and everyone of you.

Throughout the last 2-1/2, I have a lot of tipsters call or write because they did not see their tip in print. There are a lot of reasons for that, and I can't go into them all here, but believe me when I say that if you send me a usable tip, with a name, phone number and

address (not your E-mail address) that tip will get used somewhere along the line. If your tip still isn't used it's because someone had sent it earlier and I had their tip already scheduled for printing, or it was simply unusable. If that's the case, try again with another tip.

When sending tips to be published, keep in mind that the tips you are reading now were scheduled to be printed two months ago. That's the lead-time on getting the magazine put together, printed and sent to you, so allow for plenty of lead time. It's not unusual to not see your tip printed for several months.

At any rate, as the old radio preacher used to say, "keep them cards and letters comin' folks. Y'all heah me now?"

### ALL LOCK WINNER: Volvo By-Pass Methods

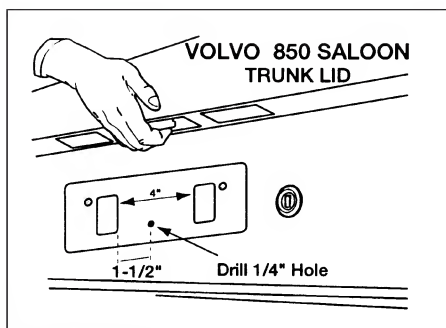
In 1993, Volvo introduced a deadlocking system on the 850 Saloon and 850 Estate Wagon. The deadlocking feature and the alarm system on the '93 and '94 models can be activated or deactivated by remote control or by using the key in the doors or the trunk lock. With the 1995 models, the alarm and ignition immobilizer cannot be switched off/on

by the key. It can only be switched off/on by the remote.

Since all the locks on these vehicles are fully shielded, the 850's can be very difficult to open when deadlocked and the alarm and immobilizer activated if there is no key available, or in the case of the '95s, the remote is lost or locked in the vehicle.

The locks for these models are made by YMOS (UK) and are four track keys with four spaces and four





**Illustration 1.**

depths. All of the locks on the vehicle are fully combined which

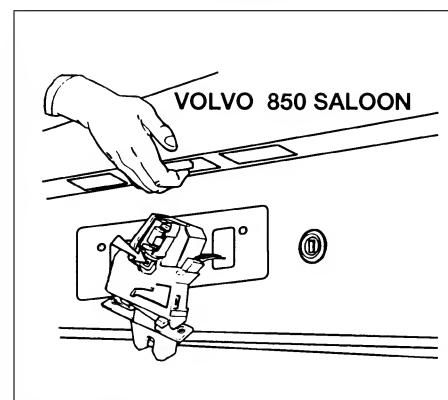
means that all you have to do is get to one lock to generate a first key for the Saloon or the Estate Wagon.

Utilizing the following diagrams and information, one can open either of these models - even if they are fully deadlocked - and by-pass the alarm and ignition immobilizer to generate a first key in thirty to forty minutes!

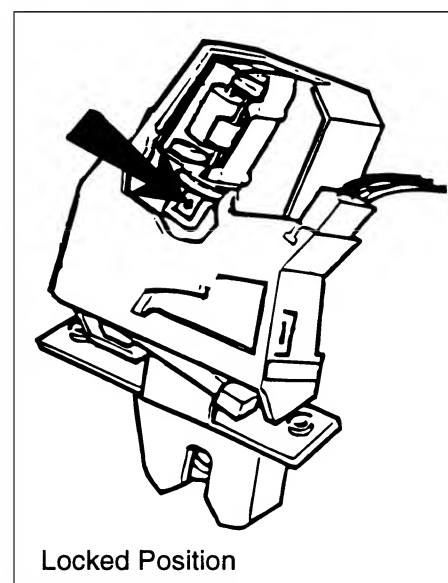
Illustration 1, shows the number plate (license plate) location on the Volvo 850 Saloon removed, and indicates the distance between each of the plate bumpers as 4". By

measuring 1-1/2" from the left bumper, you can find the drill site for the 1/4" hole you must drill through the outer skin of the trunk to access the locking mechanism.

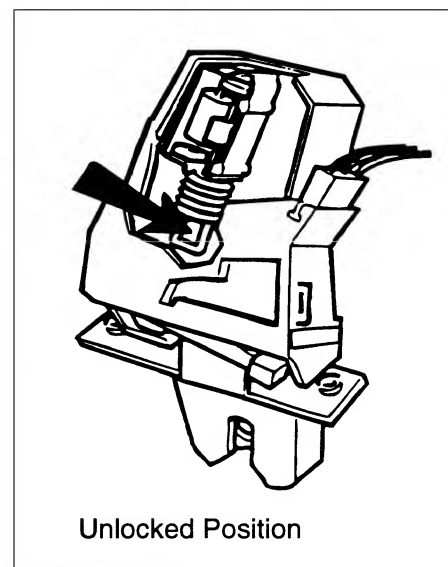
Illustration 2, shows the location of the locking mechanism and the



**Illustration 2.**



**Illustration 3.**



**Illustration 4.**

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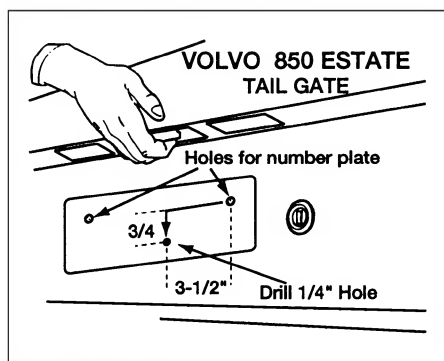


Illustration 5.

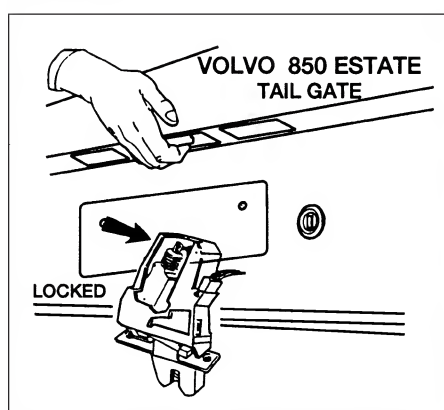


Illustration 6.

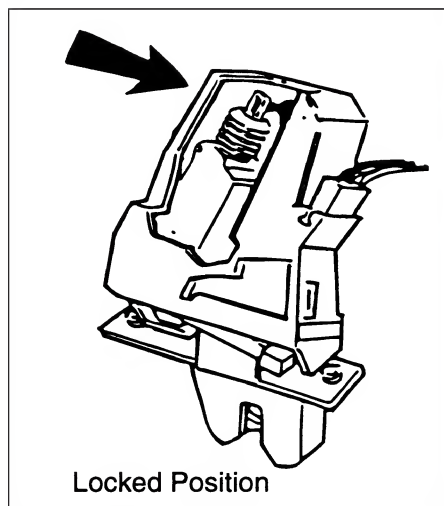


Illustration 7.

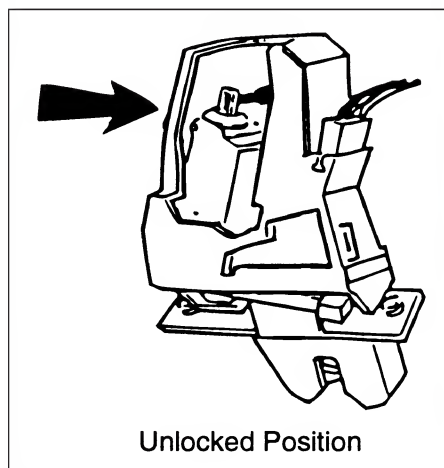


Illustration 8.

arrow points to the locking plunger which you must depress to unlock the trunk.

Please note that once you have drilled the 1/4" hole through the skin of the vehicle, you must still continue your hole through the plastic cover over the locking motor. This hole must be drilled with GREAT care, to not damage the motor or plunger assembly. Once you have completed your hole, use a small screwdriver or other tool to push the locking mechanism down to the unlocked position (see Illustration 3 & 4).

Once this sequence has been completed, on pre-1995 models, you have by-passed the deadlocking feature and can proceed to decoding the trunk lock and originating your first key. The reason the alarm and deadlocking feature is deactivated during this sequence, is the result of depressing the locking plunger on the trunk locking motor. The security system interprets this action the same as it would as if a key had been used to unlock the trunk.

Illustration 5, shows how to access the trunk locking motor for the 850



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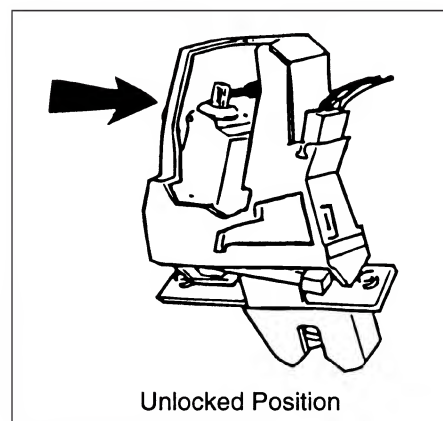


Estate Wagon. Note that you are to drill a 1/4" hole 3-1/2" to the left of the right hand screw hole for the number plate and 3/4" down. Note that the locking motor on the Estate is of a somewhat different configuration than that of the Saloon (see Illustration 6). Again, use a small screw driver or other tool to depress the plunger (see Illustration 7 & 8). Also, be careful drilling through the plastic cover over the locking motor.

As with the 850 Saloon, this sequence will allow you to access the lock and generate a first key on pre-

1995 models. If you are dealing with a 1995 or later model, you can still originate a key at this point, but you will have to disable the alarm to get everything working the way that it should.

Illustration 9, shows the location of the fuse box containing the alarm relay module. To by-pass the alarm, remove the covering under the dash on the driver's side. Turn the ignition to the on position. Pull the alarm relay only part of the way out. Start the engine. Now, pull the relay out completely and leave it out for about



**Illustration 9.**

thirty seconds. Re-insert the alarm relay into the relay board. The alarm and immobilizer are now completely switched off and can be activated by the key or remote as the case may be.

Steve Gallagher  
Ireland

Editor's Note: If, as a U.S. or Canadian reader, you are into high security automotive work, I would suggest that you go down to your friendly Volvo dealer and look an 850 Saloon and Estate Wagon over to make sure that the European models and U.S./Canadian models are the same as far as the type and location of the trunk motors, etc. before trying this procedure on a lock-out. As for our European subscribers, I think Steve's tip will be a great time saver for any of them that perform service on these vehicles. Thanks, Steve!

AMERICAN LOCK AND SUPPLY  
WINNER:  
**Adams Rite Cash Box Nut**

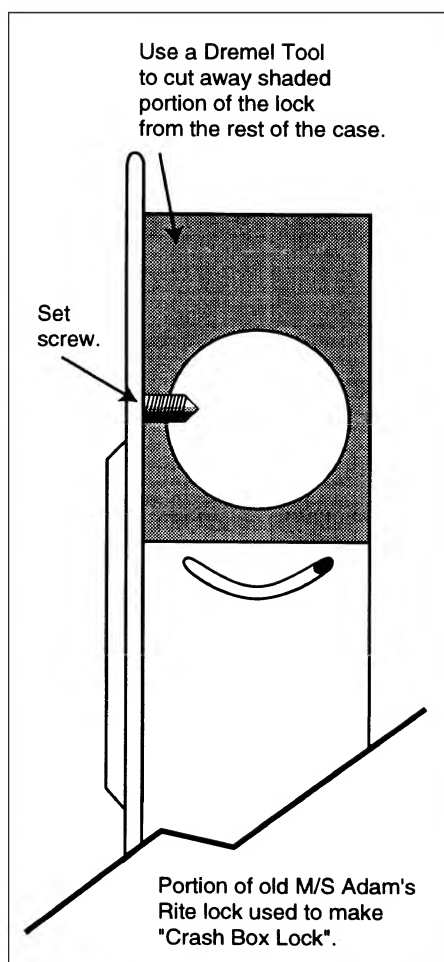
I was recently asked to install a panic exit device on the rear door of a real estate agent's new office building. What made the installation unusual is that the agent's new offices were in a house that was on the Historic Registry. The door in question had an old, full mortise lock (a P.F. Corbin that was well over 100 years old) with a very decorative pull handle, thumb piece and escutcheon with fancy scroll work and engraving on it. The agent wanted to keep the outside trim intact if at all possible.

By removing the entire lockset from the door, it was simply a matter of replacing the pitcher handle and escutcheon back on the exterior of the door and fastening them to the door with the appropriate hardware. When it came to inserting the mortise cylinder, I realized I did not have a Cash Box Nut on the truck to

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**Illustration 10.**

attach the cylinder to the door. Rather than make the trip back to the shop, I decided to see what I could "engineer" to get myself out of a fix.

I found an old Adams Rite M/S deadbolt on the truck and used my Dremel Tool to remove part of the casing as you can see in Illustration 10. I was able to cut the casing in such a way as to salvage the retaining screw. Then it was a simple matter of holding my special "nut" on the inside of the mortise "pocket" and screwing the cylinder in. Once I tightened the retaining screw the cylinder was there to stay.

Jay Christie  
N. Carolina

**HPC PISTOL PICK WINNER:  
GM Side-Bar Template**

Here's a tip for making a template that will allow you to drill right over the side-bar on older GM ignition locks (roughly from 1968 to about 1992). This template will center your hole right over the side bar where you can insert a probe, rake the wafers and remove the plug for keying or servicing.

In Illustration 11, the piece of brass shim stock that I used to make the sidebar template is  $9/16" \times 1"$ . Measure  $7/16"$  from one edge and  $31/32"$  from the other edge. Where the lines intersect, drill a  $1/8"$  hole (note the area on the shim stock that I marked "Top"). Next "roll" the shim stock until it has a radius that will conform to the radius on a GM cylinder.

Remove the cylinder from the car and turn it so the "slot" on the bottom of the cylinder is facing up;

and the retainer or retainer screw hole is facing away from you. Place the "TOP" of the drill guide against the bottom ridge of the housing and the edge of the guide right to the edge of the housing as shown. Now carefully drill a hole where indicated. Just remember, you're going to be drilling just a shade under  $3/8"$  into the housing. Once you have exposed the side bar, put pressure on it with a probe and rake the wafers until the side-bar falls into place and the lock turns.

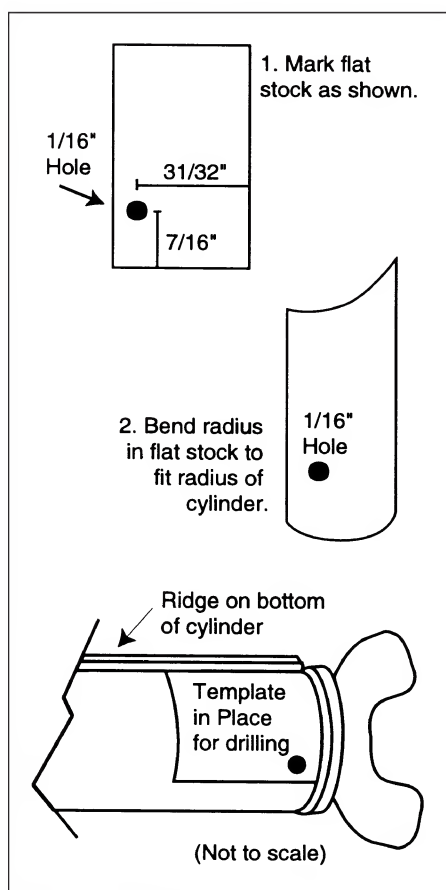
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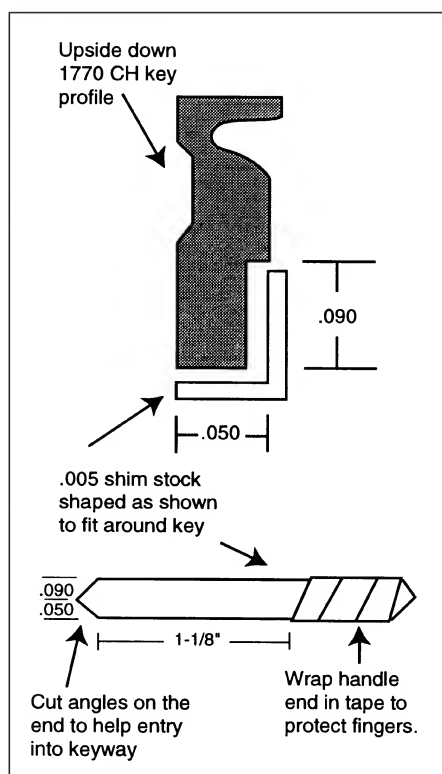
**Illustration 11.**

Editor's Note: Replacement ignitions which will cover most applications of Bob's tip cost between six and eight dollars from most suppliers. With product costs in that range, I personally don't feel it's cost effective to salvage this type of ignition. However, there are times when you might be out of stock or just caught short away from the shop without a backup cylinder. Such times would make Bob's template handy to have around.

#### SARGENT AND GREENLEAF WINNER:

##### **Chrysler Key Removal**

When a customer calls and tells you they can't understand how their key got caught in the ignition of their Chrysler made vehicle (Usually a 1770, a Y-152 or Y-153 key blank) and won't come out, you can pretty well be assured that they inserted the key upside down and the cuts are hung up on the buzzer switch. Simply make yourself a shim to the dimensions shown (see Illustration 12), using .005 sheet shim stock (available from most any industrial supply house). By cutting angles on the business end of the shim, you will find it easier to insert the shim into the keyway.



**Illustration 12.**

Because the customer has usually pulled the key outward and tight against the buzzer switch, the first thing you need to do is push the key in as far as possible until it is as loose as possible in the keyway. As you begin to insert the shim, wiggle the key around as much as you can to help ease the entry of the shim into the keyway. You only need to get the key in far enough to push the buzzer switch down, which will release the key and allow you to extract it.

I use .005 shim stock because I have found the normal curved shims that I use are too flimsy to be able to push the buzzer switch down.

Don Adlam  
British Columbia

#### SILCA KEY BLANKS WINNER: **Assembling Junkunc Padlocks**

I would often get discouraged when attempting to re-assemble American/Junkunc Brothers Series 10 ball locking padlocks. The balls kept slipping out of alignment. I would carefully align one, and then, while trying to align the other, the first one would slip out of alignment and prevent the retainer assembly from seating properly. I eliminated my frustrations with a little bit of axle grease and a magnetic screw-driver.

Solution 1: Apply a small amount of axle grease to each ball and

carefully place it in position. The grease will prevent the balls from slipping out of alignment which will allow the retainer and cylinder to fit into its proper position without trying to juggler the balls into place.

Solution 2: Use two small magnets, one on each side of the lock case, to keep the balls in position while inserting the cylinder and retainer.

Eddie L. Bolden  
Illinois

#### PRO LOCK PICK SET WINNER: **The No Energizer Follower**

Here's another tip for a simple to make lighted plug follower, but without batteries. You'll need a 1/2" diameter Plexiglas rod, cut to your preferred length and a 12-Volt light bulb (with wires attached) that you can purchase at Radio Shack. You will also need two pieces of 16 gauge, or heavier wire about four to six feet long and two alligator clips. You can eliminate the alligator clips if you decide to wire directly into your van's electrical system.

First, use a square to locate the exact center of each end of the Plexiglas rod. Then drill a 1/16" pilot hole in each end to a depth of 5/8" to 7/8". Then drill the hole out to a 3/16" diameter. Now, prepare one end of the follower to accept a mortise cylinder and the other for a deadbolt. Now just insert the follower into the cylinder and insert your light into the follower. Viola!

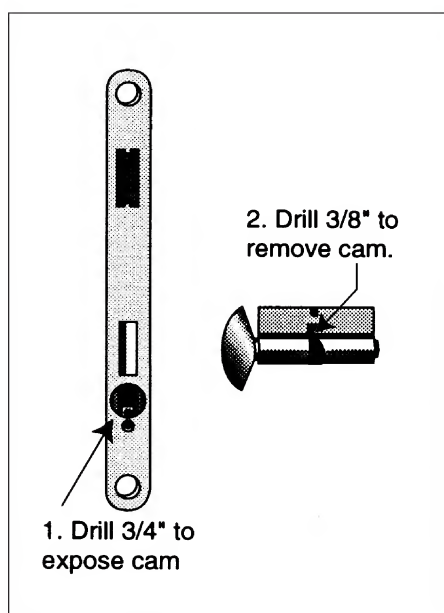
This may seem like too much trouble to go to for some, but at night and in a dark van, the bright light inside the cylinder sure makes the repinning go a lot smoother.

Steve Stanhope  
Texas

#### TECH TRAIN VIDEO WINNER: **Repairing Ford Cap Tabs**

On most newer Fords, the caps on the door locks are made of plastic and have four tabs (also of plastic) that hold them on the cylinders. When I service these cylinders, I use a small flat screwdriver to push the tabs off the cylinder to remove the cap. In the process, I often break one or more of the tabs.

To repair the damage (particularly if I do not have a replacement cap for an ever growing array of Ford face caps), I heat up my soldering iron and carefully melt the plastic just enough to make new tabs in the same places as before. If by chance,



**Illustration 13.**

there is not enough plastic to work with, I use the plastic tab(s) that broke and just melt them to the cylinder an cap.

So far, I have found that if you are willing to work slowly and carefully, this method works just fine.

William P. Grant, CRL  
New Jersey

**SIEVEKING G.M. WHEEL PULLER  
WINNER:  
Jammed Atrium Lock Removal**

I was called to repair an Atrium door lock that would not lock. Fortunately, in that situation the door can be opened. The problem with the door was that the thumb turn was just spinning and would not align the cam that would extend the lock bolt and thus lock the door. The key was slightly turned and broken off in the keyway on the exterior side of the door.

If you look at Illustration 13, you can see how I used a 3/4" hole saw to saw a hole midway between the set screw and the bottom of the lock bolt. This hole allowed me an excellent view of the cylinder cam. Since the cam was jammed and would not turn, I used a 3/8" drill bit to drill out the cam which allowed the cylinder to slip right out after removing the set screw.

Larry Peltzman  
New York

**MAJOR MANUFACTURING WINNER:  
Get A Grip With An "L" Tool**

When it comes to opening 1991-1996 Chevy Caprices and Buick Roadmaster vehicles, I have found

**Do not open or unlock  
these premises.**

The locks to this dwelling have been  
changed at the tenants request.

**DO NOT ALLOW ACCESS WITHOUT  
THE AUTHORIZATION OF:**

NAME \_\_\_\_\_  
PHONE # \_\_\_\_\_

**Illustration 14.**

that the use of an "L" shaped tool, with either a rubber band wrapped around it, or dipped in plastic dip, is a much easier tool to use than the recommended horizontal rod tool. The "dip" or rubber band allows the "L" tool to get a good grip on the linkage so it will move very easily.

To use this tool, wedge the window six inches from the rear edge of the front passenger door. Use and inspection light to locate about two inches of exposed rod coming out at a 45 degree angle from the door latch. That is your attack point. Insert the "L" tool with a rubber band wrapped around it at the extreme rear edge of the passenger door. Lower the tool thirteen inches down into the door

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cavity and then twist the tool counter-clockwise. That should put the "L" part of the tool right on top of the bottom horizontal linkage rod. Then simply move the rod forward to unlock the vehicle.

With practice, this procedure can easily be done by feel alone. You will find that the added width of the tool - from the rubber band or plastic dip - will not be a problem and that the "L" tool will be much easier to maneuver inside the vehicle than the basic horizontal rod tool.

Robert K. Booska  
Vermont

#### SIEVEKING AUTO KEY GUIDE

##### WINNER:

##### Rekey Notification

When one locksmith rekeys a home, apartment or business for an owner or landlord, because a divorce, separation, eviction or repossession made the rekey necessary, what's to prevent the former tenant, spouse or occupant from calling another locksmith to effect entry to the premises? Especially if that person still carries I.D. with that address on it!

To help my customers prevent that

from happening, I provide them with copies of the enclosed form (see Illustration 14), to put in their door or window next to the door. I instruct them to list their name and telephone number, or a family member or friend who might be willing to take calls at odd hours regarding the rekeying.

Note that I do not put my name or telephone number anywhere on the form, since I would not care to share this information with the aggrieved party. This form may keep a locksmith out of trouble, or at least help ease the situation if the disgruntled party attempts to gain entry to the premises.

Len Wagner  
Illinois

#### JAKE'S GRAB BAG WINNERS:

##### Another Chrysler Solution

The problem with Chrysler keys (1969-1989) being trapped by the buzzer activator after being inserted in the ignition switch upside down is a recurring and frequent one.

When I service one of these "lockouts," I offer the customer the option of cutting off either the top or the bottom of their ignition key, so they can tell "up from down." With

this "flat" on one side or the other, the customer will always be able to properly insert their key in the ignition switch ... even in the dark!

George Steiner  
Nevada

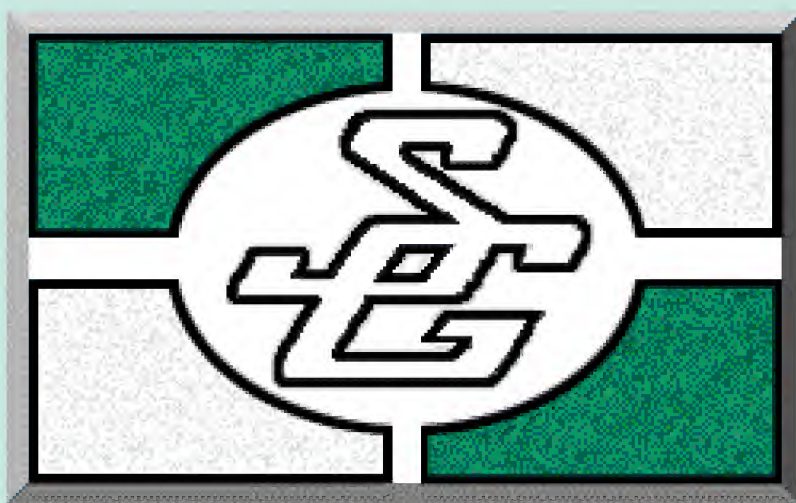
#### Slim Jim Still Useful

The Astro Van I was called to open had the rear door access port plugged with a bolt, and the lady who called indicated that the side passenger door lock was not operating and that the door would not work even from the inside. Our opening options were somewhat limited.

I noticed that one of the clips securing the window on the sliding door was slightly ajar. I bent my Slim Jim to a 45 degree angle and very carefully eased it under the side window and unclipped first one window clip and then the other. That gave easy access to the inside of the vehicle. Using the handle of another too, I prodded the door locking lever upward and the vehicle was unlocked. See! The Slim Jim can still be a useful tool.

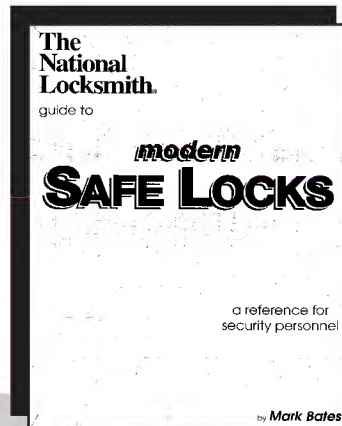
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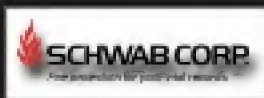


This material was excerpted from the Mark Bates book titled Modern Safe Locks. The book covers combination operating and changing procedures for virtually every combination lock both mechanical and electronic, that you will encounter on a daily basis. Modern Safe Locks is available for purchase through **The National Locksmith.**

# STEEL SAFE

<b>MODEL:</b>	<b>CS411B</b>
<b>DESCRIPTION:</b>	Three wheel, key-changeable combination safe lock. Dial is numbered from 0 to 99 clockwise. Changing index is 7 numbers to the left (for a right hand lock) or 7 numbers to the right for a left hand lock.
<b>RATINGS:</b>	None
<b>FACTORY COMBINATION:</b>	4XL to 50, 1XR to stop.
<b>OPENING PROCEDURES:</b>	<p><b>WHEN SET TO A 3 NUMBER COMBINATION (RH LOCK):</b></p> <ul style="list-style-type: none"> <li>a. 4XL to 10</li> <li>b. 3XR to 20</li> <li>c. 2XL to 30</li> <li>d. 2XL to 40</li> <li>e. 1XR to stop (98)</li> </ul> <p>Reverse dialing directions for left hand locks</p>
<b>TO LOCK:</b>	Turn dial left 4 times.
<b>FORBIDDEN ZONE:</b>	0 to 20
<b>CHANGING PROCEDURE:</b>	<p><b>WITH THE SAFE DOOR OPEN...</b></p> <ul style="list-style-type: none"> <li>a. Dial the existing combination to the changing index (steps a through c under "Opening Procedures").</li> <li>b. Insert change key and turn it left 1/4 turn.</li> <li>c. Dial new combination to changing index (steps a through c under "Opening Procedures").</li> <li>d. Turn change key right 1/4 turn and remove it.</li> <li>e. Test combination at opening index (steps a through d under "Opening Procedures").</li> </ul>
<b>TOOLS NEEDED:</b>	Unknown change key. Similar to S&G No. U8.
<b>NOTES:</b>	Sometimes seen with two change key holes. This allows the same lock case to be used for both true right and true left hand locks.





## STEEL SAFE



STEEL SAFE CS411B





# CUSTOMER SATISFACTION!

by Bob De Weese, CPL

**The story you are about to read is true. The names have been changed to protect the incompetent.**

I was in need of a particular mortise lock for a frequent customer. The distributor from whom I'd ordered the lock, lost the order. My customer's mad. My name's De Weese. I carry a grudge.

I received a call from one of my frequent customers. A motor freight company, with a broken lever spindle on the drivers entrance to the dispatcher's office, needed their problem solved. Pretty cut and dry, right? Not this day. Somebody "fixed" it before they called me. Needless to say, they now needed a set of levers, too. Don't you love it when someone plays locksmith and ends up turning a routine repair into a really nice job?

Anyway, the lock wasn't available locally so I called my usual distributor for this brand of lock. They've always got it no matter what "it" is. And because of their location, I usually have my stuff in two or three days. At that point, time wasn't a big deal. You see, the place was occupied twenty four hours a day, and the door was rarely locked. Since I knew it would be a few days before the material came in, I covered the latch with a good piece of cardboard and taped it to the door with duct tape. I didn't remove the lock altogether, because doing so with a mortise lock greatly weakens the door in that area (in case you were wondering).

Still needing a way to pull the door open from the outside, I threaded a piece of rope into the escutcheon through the holes in the spindle hubs, and out the other side. Then I tied a really big knot in both ends. Looked

like garbage, but it served the purpose.

After finding out that a new lever and spindle set would cost the customer \$170, while a complete lock (less cylinder) would cost him \$269, we decided to just replace the whole thing. I told the General Manager that I'd see him on Tuesday or Wednesday of the following week. (Murphy's Law: Supply problems are most likely to occur when you're dealing with the "Big Cheese").

Wednesday came and went. No lock. Thursday came and went. Still no lock. Friday, after waving to the UPS man as he drove by, I called the distributor, who could find no record of the order ever being placed. (Everyone who has had this happen to them, say "I"). The salesperson said that she would get back to me, which she did, but not before my customer called me wondering what was going on. I was going to call him, (I really was!), as soon as I knew what was going on.

Then something happened to put me into a customer relations scramble mode. He asked me to find out if it had been shipped yet, because if it hadn't, he thought he knew someone in the builders hardware business who could get him one. This was all I needed. I naturally quoted him a list price and now he's going to get it at a big (I'm sure) discount, from somebody else. Even though most people understand the concept of wholesale and retail, something like this can be a real customer relations disaster.

At the very least, it will cause them to notice that they can (apparently), get it faster and cheaper, elsewhere. Here's another thing that will begin to happen a lot, (assuming that you don't lose the account altogether) even if it

never happened before. Every time you give them a price on a big ticket item, the first thing that will run through their minds is: "How much is he making on this?"

The distributor called back and explained what had transpired since we had last spoken. After bantering back and forth and holding on while she talked to the powers that be, I was told that they would pay the normal price of the shipping plus ten dollars of the extra cost for next day delivery on Saturday. This, I was told, would come to about twenty dollars out of my pocket. Being over a barrel, I reluctantly agreed.

I called my customer to update him on my progress. What did I do, you ask? I did what most small businessmen would do when faced with a similar situation. I lied though my teeth! Well...I didn't really lie. It went something like this: "There was a problem with shipping" (Translation: The distributor never sent it out). "The lock has been located" (It's still on the shelf). "I was promised a special UPS Saturday delivery" (Its going to cost me twenty bucks to keep you from taking your business elsewhere because someone down the line didn't do their job).

Now as far as ordering through this distributor again, I'm sure that I will. Not doing so would cause me a problem. I would have to find another source for that product that was as reliable (as it is). After all, their service is usually very good and they keep a good inventory of that product line. Even though I was disappointed by the way they handled the problem, (I'll give them a "C") I'll still buy from them, because for the most part, I like doing business with them. Their only consequence will be that whenever I'm sitting around at a locksmith





association, meeting, banquet or other, and the subject of bad experiences with distributors is brought up, I'll have one more story to tell.

I recently saw a sign in a business meant for the employees which stated: "The average dissatisfied customer will tell his story to fifteen people." While I'm not exactly a dissatisfied customer, I'm not really a happy one right now either.

Problems like this are bound to happen eventually, if you do business with someone long enough. The deciding factors in whether or not to continue the relationship, are how often these kind of problems occur and how they are handled when they do.

#### **Some things to keep in mind when you do run into a problem with a supplier**

**Important Note:** When placing an order, especially an important one, always get a name. This in itself puts the law of averages in your favor because if you do encounter trouble, you can bet that it will be the one time that you didn't get a name.

**STEP 1:** Ask for the person who originally took the order. Anybody can make a mistake. It may not even be

that person's mistake. Give them the opportunity to rectify the situation on their own. If it's not a common problem, there's no sense in getting them in hot water with their boss. Besides, this person may be in a position to do you a favor one day (and now they "owe you one").

**STEP 2:** Before you start talking, smile. While the person on the other end of the line won't be able to see it, if done right a smile can most certainly be heard over the phone. Nice people usually get treated nicely.

**STEP 3:** Calmly describe the problem. Then shut up. It's now up to them to solve the problem. Give them the chance.

It's been my experience in dealing with good distributors, that after STEP 3, the matter will usually be resolved to my satisfaction without having to take it any further. Product distribution is a very competitive business, and since there really isn't a lot of room for competition in the area of price (five or ten percent...maybe), the better distributors know that customer service is where it's at.

**STEP 4:** If after a short time you see that you're not getting anywhere,

talk to a supervisor. Do not, however, ask the person you're talking to for a supervisor. While you're on hold, the person that you are about to complain about will be telling his boss "his side of the story," in an effort to both save face and get the jump on you. Instead, politely say good-bye, hang up, wait five or ten minutes and then call back. Hopefully someone else will answer the phone. Then ask for the last person's supervisor. This way, when you do talk to them, they won't be coming with any preconceived notions about you or your problem. You are starting with a clean slate

**STEP 5:** Repeat STEP 3, and, if necessary, STEP 4 right on up the ladder.

#### **Rules for engagement**

If you're really, really mad, WAIT! Allow yourself time to calm down. It's been my experience that whenever I've lost my cool, I've lost the battle.

Never make threats that you can't keep. Unless you are positive that you'll never have to use them again, don't threaten to take your business elsewhere.

Take notes. Write down names, dates, promises, excuses, etc.

Don't use any kind of profanity. The person with whom you are disagreeing will use it against you.

No matter what, maintain a professional decorum. Even if it gets heavy, do not yell or holler. Try not to even raise your voice. It is possible to convey your frustration without losing your cool. And NEVER, EVER resort to name calling. It accomplishes nothing other than alienating the exact person that you are trying to persuade. Try this trick. If someone with whom you are having a disagreement begins to get louder, you begin speaking more softly and slowly. This consciously keeps you focused on not blowing up, (and it irritates the heck out of the other person).

While problems with good distributors shouldn't happen often, they do happen. That's life. Knowing how to handle them when they do crop up, can make or break an otherwise perfect day. **TNL**



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# KEY CODES

## GM Code Series 7N47-7R83

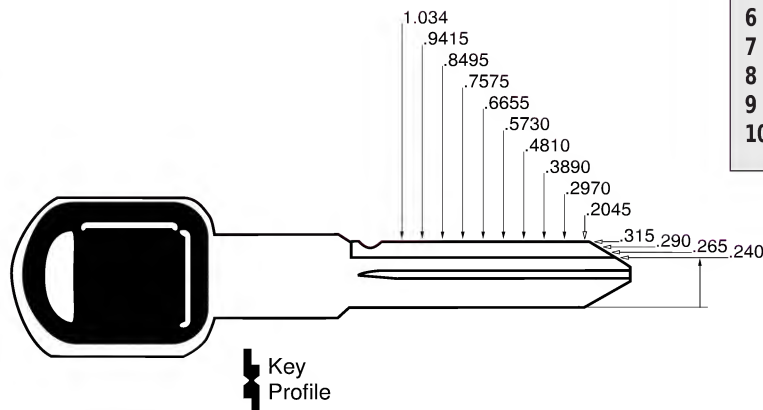
HPC 1200 CM  
Code Card - CF215  
Cutter - CWI011  
Stop - 1054R Tip Stop (Ford 10-Cut)

Framon  
Cut start - .216"  
Cut to cut - .092", Spacing Block #3  
Cutter - FC8445  
Key Clamping - Lay spacing clip  
F2MS552 flat on left side of vise and  
align from tip.

Curtis  
Cam - GM6  
Carriage - GM6A

### KEY BLANKS

B&S 5995936  
Silca GM37(EP)  
Curtis B82  
Ilco P1102  
Jet B82(PH)  
EZ B82  
ESP B82



Spacing and Depths  
using Universal  
Micrometer Card #58.

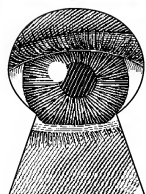
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2	.2775	.290
3	.3700	.265
4	.4625	.240
5	.5550	
6	.6475	
7	.7400	
8	.8325	
9	.9250	
10	1.0175	

7N47	3224243343	7N87	3112434343	7P27	1332443343	7P67	3132134433	7R07	1342133443	7R47	1334243433
7N48	2434233443	7N88	3122434343	7P28	2234234433	7P68	1334234343	7R08	3443132322	7R48	3133443213
7N49	3344243323	7N89	3433244343	7P29	3232434343	7P69	3223343442	7R09	3132343443	7R49	2434243433
7N50	2133443213	7N90	3122312344	7P30	3432134433	7P70	2423443213	7R10	3344312344	7R50	3224234343
7N51	3432433443	7N91	2334233443	7P31	1313243443	7P71	1344223343	7R11	2432344343	7R51	3233443213
7N52	3313243443	7N92	3232443433	7P32	1232343443	7P72	3224234433	7R12	3243443212	7R52	2323343442
7N53	2431312344	7N93	3324243343	7P33	3431343443	7P73	3234243343	7R13	3342243433	7R53	3424234433
7N54	2232344343	7N94	2433244343	7P34	2232443433	7P74	3244223343	7R14	3432243443	7R54	3424312344
7N55	3244312344	7N95	3433243443	7P35	3234423343	7P75	1323244343	7R15	3324234433	7R55	2234234343
7N56	3434431234	7N96	2434423343	7P36	1334233443	7P76	3313112344	7R16	1334234433	7R56	3434312344
7N57	3443312344	7N97	3432244343	7P37	3313443213	7P77	3312434343	7R17	3224423343	7R57	2213312344
7N58	3242133443	7N98	2432343443	7P38	1334243343	7P78	3432434433	7R18	1322134343	7R58	3313244343
7N59	1332434433	7N99	2344312344	7P39	1332443343	7P79	3423243443	7R19	2234243343	7R59	2334423343
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7N61	2332434343	7P01	3233243443	7P41	2434234433	7P81	1223343442	7R21	1242134433	7R61	3324234343
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7N63	1313244343	7P03	2334234433	7P43	3231312344	7P83	3421343443	7R23	2442133443	7R63	3244343212
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7N86	3324423343	7P26	3342423343	7P66	3432443343	7R06	3232134433	7R46	3424234343		





# THRU THE KEYHOLE



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# Dual Custody



by  
Dale W. Libby

**A**ny service business would be a lot more fun if we did not have to deal with the public on a regular basis. This includes both the commercial and non-commercial customers. In the first category, (that of commercial customers), the prime candidate for irritating clients is that of the "Banker," including anyone who works in a banking atmosphere. I have a few comments about how to 'deal' with bankers at the end of this article.

Safebusters International (Tommy Powers and I) were called on to fix a bank in a neighboring town that had recently been acquired by a large conglomerate banking syndicate. The bank had some older Mosler and Diebold vaults at one location that were to be worked on. Their complaint was that there was only one combination for the vaults, and they wanted two separate combinations as required in their rules. At another locations the safes had two separate combinations, upper and lower, to operate the vaults.

In the other locations, the vault door configuration was set up so that

two combinations were needed. I did not relish changing the existing bolt work configuration so that the vault door would require two combinations. I wanted to leave a (as we say in computer programming) back door, so that if one lock malfunctioned, the other would act as a back up.

This is the theory of a time lock with multiple movements. Any one of the three or four movements will open the safe or vault when it has run down. If one or more of the time lock movements fail to work, the remaining clocks can allow the vault to be opened when the combinations have been correctly dialed. I wanted this same safety factor on these older Mosler Vault doors.

After waiting to get the present door combination, Tom and I figured out how to give the bank personnel dual custody without changing the inside bolt configuration. This bank was dual custody crazy. All the key cabinets in the vault had two cam locks keyed differently to open the doors. This is taking the dual custody to the n-th degree.

**I**n Photograph 1, Tom Powers is dialing the existing vault door combination to the L.O.B.C. Mosler indirect drive combination lock. The back cover removal index on these locks is located at the 5:00 o'clock position. The first four numbers of the combination are dialed in the regular order, 5 left, 4 right, 3 right, and 2 left, leaving out the last turn (left) to open. After turning the combination, the screw in the back of the lock is removed and the cover of the lock is slid to the right and pulled off the case back. This is similar to having a changing index on a key change lock. It requires that the person changing the combination to the lock know the existing combination before a new combination can be entered.

The term L.O.B.C. is an acronym. I have heard it called Locked On By

Combination or Locked On Back Cover. Either way, the old combination must be dialed before the back cover can be removed. What you are doing is dialing the gates into a new position to allow a pin or fence on the cover to move into the wheel pack by sliding to the right. The cover is grooved and cannot be removed unless it is moved to the right by dialing the existing combination.

In Photograph 2, we see the dual combination locks and the three movement Mosler time lock that controls the inside of the vault door. Note the size of the bolts along the side of the door. Once the cover has been removed we see a close-up of the vault lock as shown in Photograph 3.

The back cover of the wheel pack is to the left of the vertical support bar. It has two cut-outs in it, shown at the 9:00 and 2:00 position. The 9:00 cut-



1. Dialing the existing combination in preparation to cover removal.



2. View of inside of vault door.





**3. Close up of inside vault indirect drive lock.**

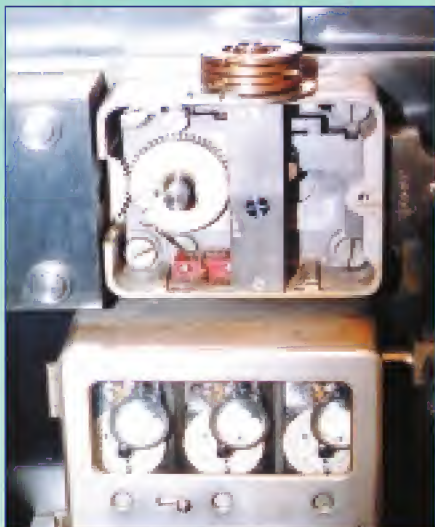
out is for the back cover. When the gates of the wheels are lined up in this position, it allows the cover to be moved to the right. The groove and slot in the base of the lock can be seen on the right side of the lock.

**T**he left cut-out at 2:00 is a viewing slot for dialing the combination. The fence and wheel gate alignment can be seen while dialing the combination. When the combination has been dialed correctly, the gates of the wheels will line up at this point, and with the final turn to the left, the drive wheel will move the fence and withdraw the combination lock bolt.

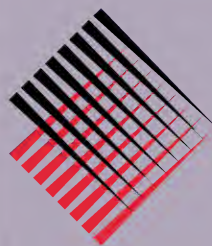
The next service item in this picture to note is the slotted screw at the 7:00 position. This is the wheel pack retaining screw that holds the hand change four wheel pack in the combination lock. When this screw is removed, the wheel pack can be pulled out of the lock for servicing.

Photograph 4, shows the wheel pack on the upper lock sitting on top of the combination lock body. It is a regular 4 wheel hand change mesh type wheel pack. Nothing special here.

Also shown in the photograph is a microswitch at the base of the lock



**4. Removal of screw at 5:00 position allows wheel pack to be removed for service.**



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drive wheel. The microswitch indicates the locked or open position of the combination lock. There are electrical contacts at the top of the door that connected to an alarm system when the vault is in the closed position.

Instead of changing the bolt configuration, we split the combination to each of the locks. Here is what we did. This is a sample combination, and not the real one. The numbers chosen are for convenience only.

The first team that had the combination were the one's that came

in early to the bank. We gave them this combination.

- 5 times left to 80
- 4 times right to 20
- 1 time left to 50

By doing this, we gave the first group half of the first combination and set the lock for the second group. The one time to 50 was a prep for the second combination. The second group got the following combination, starting at 50.

- 3 times left to 65
- 2 times right to 37
- 1 time left to STOP.

The first group had two of the four numbers, and the second group had the remaining two number with the LEFT to STOP to open direction. The correct total combination was Left 5 times to 80, Right 4 times to 20, Left 3 times to 65, Right 2 times to 37, One time right to STOP!

We made sure no one at the bank had the total combination. Plus, it was much easier for the employees to dial half a combination rather than the total combination. Again, after waiting for quite a while, we had everyone try their half of the combination on both locks, and it worked perfectly.

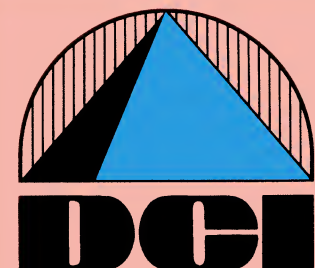
The bank personnel were so happy with their abbreviated combination, we changed the combination on the safe deposit vault to another split combination. The bank personnel loved this setup. They had dual custody and we, the service technicians, had a fail safe built into the vault doors. If one lock failed, the other lock could be used to open the vault. Not a high tech solution, but one that worked out perfectly for everyone.

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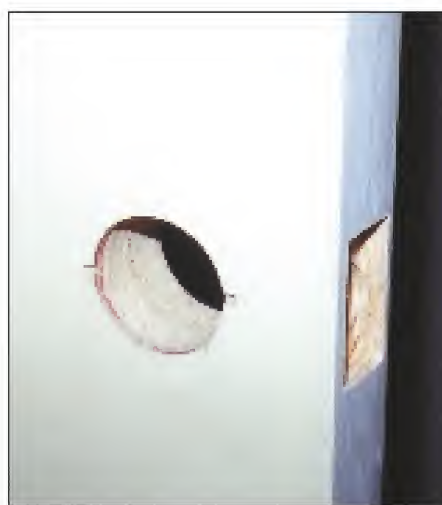


# INSTALLING LEVER LOCKS

# WITH LEVER-TEMP

by John Blackburn

When it comes to the installation of lever lock sets, in most instances, you will be retrofitting a lever lock to an existing hole where there is currently a cylindrical knob lock set. Lever installations are identical to standard knob lock installations except for one thing, Grade 1 lever locksets bolt through the door using separate holes. The reason for this is to prevent the lever from being forced or wrenched from its horizontal position.



Photograph 1.

When it comes to lever lock sets I always, or at least always try, to use a grade 1 lever. Using the wrong lock as you know, only leads to trouble. If you were to put a lesser lock in a fast food chain's bathroom, you might as well plan on coming back next month for lunch to tighten it. Don't worry, if you forget, they'll call you! It's not worth the aggravation or the unnecessary

warranty. If it's a high traffic area, it has to be good, or it's not going to last. Grade 2 and grade 3 locks have their place, but I would use these only in low traffic offices and homes.

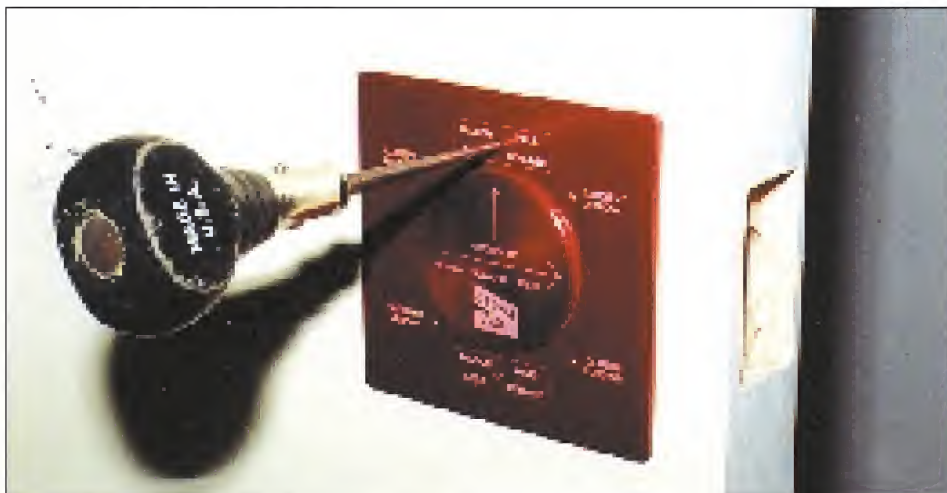
To make lever lock retrofit installations easier, I designed the LEVER-TEMP template. The LEVER-TEMP is designed to retrofit just about every lever lock manufactured by such companies as: Arrow, Corbin/Russwin, Falcon, L.S.D.A., Sargent, Schlage, Yale and Sargent 6500, to name a few. The LEVER-TEMP is easy to use and easy to carry. There are no moving parts and nothing to wear out. Let's go through a typical installation.

Installing lever locks on a blank door is a breeze. Simply apply the paper template to the door, with a scratch awl, mark for your crossbore and backset then mark your bolt-through holes. When drilling bolt-



Photograph 2.

Continued from page 116



**Photograph 3.**



**Photograph 4.**

through holes, I always use an under sized drill bit. By drilling a small hole through the door first, then using the correct bit from each side, you eliminate the risk of splintering.

When preparing to drill a door with existing hardware, there are three ways to do this. One, you could very carefully overlay the paper template and tape it to the door. This will work, but it's very time consuming, not to mention difficult to perfectly align.

Two, you could use a drilling jig. This is a great way to do installations, but the problem with drilling jigs is that they are slow if you are only going to be installing one or two pieces. They are also expensive, and it's hard to justify buying a two hundred dollar jig that won't pay for itself for a year. Three, you could use the fancy fancy new LEVER-TEMP template that I invented which just happens to be the way we are going to install the lever lockset in this article.

To retrofit a lever lock using the LEVER-TEMP, first remove the old lock and backset from the door (see Photograph 1). Place the template into the existing 2-1/8" hole with the arrow pointing toward the hinge. The template will hand itself automatically (see Photograph 2). Level the template and with a pencil or scratch awl, mark the bolt pattern you are installing. In this case we will be installing an LSDA lever (see Photograph 3).



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**Photograph 5.**

This leverset requires separate bolt through holes but only from the outside. There are two studs instead of screws that prevent it from shifting. After marking the two holes, removed the template. next we will drill two 5/16" holes 1/2" inch deep at 12 and 6 o'clock, this will allow the studs to fit snugly into the door. The inside collar has two ANSI anti slip prongs that also help prevent the lock from shifting (see Photograph 4).



**Photograph 6.**

With the drill prep finished, install the lock and snugly tighten the flange nut to secure the lock to the door (see Photograph 5).

The installation is completed and where there was once a cylindrical knob lock, there is a new L.S.D.A. lever lock (see Photograph 6).

This, like all other lever lock installations, are very simple, and easy to do. The only requirement is accuracy in the placement of the bolt-

through holes. The LEVER-TEMP eliminates all the guess work providing accurate bolt-through placement.

Suggested retail price for the LEVER-TEMP is \$29.95. If you would like more information on the LEVER-TEMP call: John Blackburn at: (352) 378-0870. **TNL**



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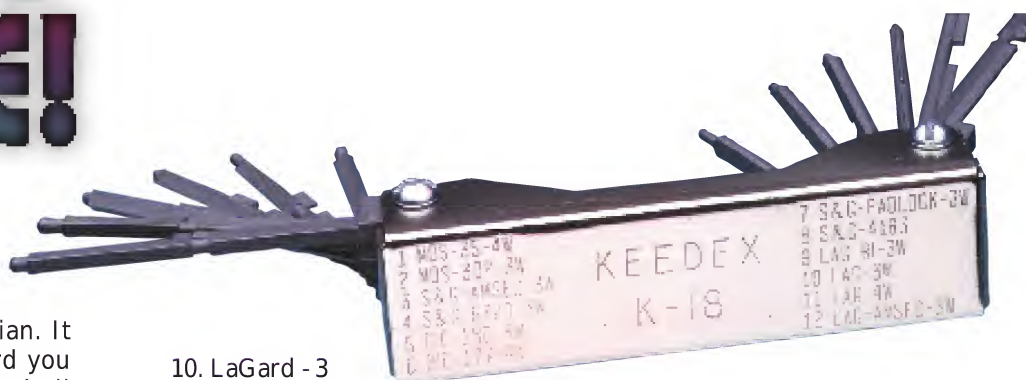
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**TEST  
DRIVE!**

# KEEDEX K-18

## Change Key Set



Organization of tools is one of the most difficult tasks for any technician. It seems that no matter how hard you try, tools still end up scattered all over the place, and the one you need most is always hidden under something else.

When it comes to change keys, there seems to be no easy way to organize each and every one of them. Even if their all kept in a zippered pouch, each time you need one, you have to hunt and search for the one you want. After digging and fumbling for a while - still empty handed - you eventually dump the lot on a table top to simplify the search, then scrape them all back into the zippered pouch for next time. What a pain. To make life a little easier, KEEDEX came up with a solution to the change key crisis with the K-18 Change Key Set.

### DESCRIPTION:

The K-18 Change Key Set is a set of the twelve most common change keys for safe locks, all combined in a handy carrying case. The change keys fold out of the case "knife style" for ease of use and selection. All the change keys included are made of stainless steel. The Set contains the following keys:

1. Mosler 35 - 4 Wheel
2. Mosler - 302 - 3 Wheel
3. S&G - AM SEC - 3 Wheel
4. S&G - 6720 - 3 Wheel
5. Diebold - 180 - 3 Wheel
6. Diebold - 77 - 4 Wheel
7. S&G Padlock - 3 Wheel
8. S&G - 4163
9. LaGard - 1R - 3 Wheel
10. LaGard - 3 Wheel
11. LaGard - 4 Wheel
12. LaGard - AM SEC - 3 Wheel

### CONSTRUCTION:

The K-18 Change Key Set is well designed and constructed. The case is made of steel and each change key is a cast stainless steel which is sure to last a very long time. About the only way you can damage this set is if the change keys are not retracted back into the case and the set is thrown into a tool box. This can cause a change key or two to break at the recessed portion, which is near the middle of the key. If the change keys are properly stored however, it would be hard to damage this set otherwise.

### CONCLUSION:

This is a great set of change keys. It is very handy and does contain a good number of keys you will use most. About the only key or keys I would like to see added to the K-18

Change Key Set is the Diebold #03-001661-0-00-0 which is a small diameter key for many Group 2 Diebold locks. The other would be the Diebold #03-002164-0-00-0 which is for the Diebold 180-55 rotary lock. This is also a small diameter change key. Both of these change keys are rather unique in design which no other key can readily be substituted for. They would make a nice addition to this already fine change key set.

The retail price of the K-18 Change Key Set is \$122.40. This is no doubt a tad expensive, but when you consider the convenience and quality, once you have one, the price you paid for it will quickly fade away and you'll wonder how you ever managed without it.

For more information on the K-18 Change Key Set or any other KEEDEX product, call: (714) 636-5657. **TNL**

### IN SUMMARY:

The KEEDEX K-18 Change Key Set for safe locks. A retractable change key set containing a variety of 12 different change keys.

**PRICE: \$122.40**

### TEST DRIVE RESULTS:

An excellent design with the construction to match. It will come in very handy and contains the keys you will use most.